In [279…
```python
import requests
import json
from bs4 import BeautifulSoup
```

Checking whether response is in json format or not.

In [280…
```python
from requests.exceptions import HTTPError

try:
    response = requests.get('https://www.adapt.io/directory/industry/telecommunications/A-1')
    response.raise_for_status()
    # access JSOn content
    jsonResponse = response.json()
    print("Entire JSON response")
    print(jsonResponse)

except HTTPError as http_err:
    print(f'HTTP error occurred: {http_err}')
except Exception as err:
    print(f'Other error occurred: {err}')
```

```
Other error occurred: Expecting value: line 1 column 1 (char 0)
```

In [172…
```
!pip install xmltodict
```

```
Requirement already satisfied: xmltodict in c:\users\dell\anaconda3\lib\site-packages (0.12.0)
```

Web page was scraped in html using python

In [173…
```python
import xmltodict
import json
import requests
list3 = []

# Sample URL to fetch the html page
url = 'https://www.adapt.io/directory/industry/telecommunications/A-1'

# Headers to mimic the browser
headers = {
    'User-Agent': 'Mozilla/5.0 (Macintosh; Intel Mac OS X 10_10_1) AppleWebKit/537.36 \
    (KHTML, like Gecko) Chrome/39.0.2171.95 Safari/537.36'
}

# Get the page through get() method
html_response = requests.get(url=url, headers = headers)

# Save the page content as sample.html
with open("C:/Users/Dell/PycharmProjects/sample.html", "w") as html_file:
    html_file.write(html_response.text)
```

In [174…
```
!pip install xmltojson
```

```
Requirement already satisfied: xmltojson in c:\users\dell\anaconda3\lib\site-packages (0.2.0)
Requirement already satisfied: xmltodict in c:\users\dell\anaconda3\lib\site-packages (from xmltojson) (0.12.0)
```

In [175…
```
!pip install utils
```

```
Requirement already satisfied: utils in c:\users\dell\anaconda3\lib\site-packages (1.0.1)
```

In [176…
```python
import xmltojson
import json
```

I parsed and formatted html using ToolSlick to convert the original html file into seperate desired html pages in order to transform into required Json files as asked in question number 2.

Code for converting HTML into JSON

In [162…
```python
with open("C:/Users/Dell/PycharmProjects/sample1.html", "r") as html_file:
    html = html_file.read()
    json_ = xmltojson.parse(html)
```

After converting into json, I copied the json contents and created a json file by the following code.

In [163…
```python
with open("C:/Users/Dell/PycharmProjects/company_index.json", "w") as read_file:
    json.dump(json_,read_file)
```

I did the same thing for creating company_profile json file

In [281…
```python
with open("C:/Users/Dell/PycharmProjects/sample2.html", "r") as html_file:
    html = html_file.read()
    json1_ = xmltojson.parse(html)
```

In [165…
```python
with open("C:/Users/Dell/PycharmProjects/company_profiles.json", "w") as read_file:
    json.dump(json1_,read_file)
```

In [160…
```
!pip install jsonpath
```

```
Collecting jsonpath
  Downloading jsonpath-0.82.tar.gz (9.6 kB)
Building wheels for collected packages: jsonpath
  Building wheel for jsonpath (setup.py): started
  Building wheel for jsonpath (setup.py): finished with status 'done'
  Created wheel for jsonpath: filename=jsonpath-0.82-py3-none-any.whl size=5617 sha256=a8dfe7427eda3bcd60f5f8f9c9902b9c674ca7267f7c4199f9fd2169d2e03cfe
  Stored in directory: c:\users\dell\appdata\local\pip\cache\wheels\7e\83\91\92d0d11261cc021516b867b5b2fe66591aa7a1dd9561c66395
Successfully built jsonpath
Installing collected packages: jsonpath
Successfully installed jsonpath-0.82
```

Pymysql to load the json files into mysql database server

In [8]:
```
!pip install pymysql
```

```
Collecting pymysql
  Downloading PyMySQL-1.0.2-py3-none-any.whl (43 kB)
Installing collected packages: pymysql
Successfully installed pymysql-1.0.2
```

Now, loading company_index into MySQL database using python

First, I imported pymysql

In [18]:
```python
import pymysql
```

Then I read company_index json file

In [19]:
```python
json_data = open("C:/Users/Dell/PycharmProjects/company_index.json").read()
```

I loaded json to convert json into python dictionary.

In [20]:
```python
json_obj = json.loads(json_data)
```

I installed XAMPP(MySQL server), and created a table for company_index in XAMPP.

Now I connected to database from my local machine using pymysql

In [21]:
```python
con = pymysql.connect(host="localhost",user="root",password="",db="json")
```

I created an object of the cursor using the connection object

In [22]:
```python
cursor = con.cursor()
```

I inserted the data from json file into the database table in MySQL.

In [23]:
```python
for item in json_obj:
    company_name = item.get("company_name")
    source_url = item.get("source_url")
    cursor.execute("insert into companyindex(company_name,source_url) value(%s,%s)",(company_name,source_url))
```

Insertion successful

In [24]:
```python
con.commit()
```

I queried the table from the database into jupyter notebook.

I executed the query, and then it showed 10 because there are 10 samples in the table.

In [25]:
```python
cursor.execute("select * from companyindex")
```

Out[25]:
```
10
```

I got all the records using fetchall

In [26]:
```python
myresult = cursor.fetchall()
```

After getting the samples, the rows from the table were displayed.

In [27]:
```python
for row in myresult:
    print(row)
```

```
('A + Communications and Security', 'https://www.adapt.io/company/a--communications-and-security')
('A&amp;A Technology Group', 'https://www.adapt.io/company/a-a-technology-group')
('A Better Answer', 'https://www.adapt.io/company/a-better-answer-4')
('A Cheerful Giver', 'https://www.adapt.io/company/a-cheerful-giver-inc-1')
('A_CT', 'https://www.adapt.io/company/a-cti-1')
('A + Communications and Security', 'https://www.adapt.io/company/a--communications-and-security')
('A&amp;A Technology Group', 'https://www.adapt.io/company/a-a-technology-group')
('A Better Answer', 'https://www.adapt.io/company/a-better-answer-4')
('A Cheerful Giver', 'https://www.adapt.io/company/a-cheerful-giver-inc-1')
('A_CT', 'https://www.adapt.io/company/a-cti-1')
```

Closed connection wtih the database

In [28]:
```python
con.close()
```

I loaded company_profiles json file into MySQL database. As this json_file was written in nested_json format, I used pandas data frame to do the same task. First, I loaded the json file into pandas dataframe.

In [132…
```python
import pandas as pd
df = pd.read_json('C:/Users/Dell/PycharmProjects/company_profiles.json')
```

data = json.loads(f.read()) load data using Python json module. After that, json_normalize() is called with the argument record_path set to ['contact_details'] to flatten the nested list in contact_details.

In [133…
```python
import json
# load data using Python JSON module
with open('C:/Users/Dell/PycharmProjects/company_profiles.json','r') as f:
    data = json.loads(f.read())
# Flatten data
df_nested_list = pd.json_normalize(data, record_path =['contact_details'])
df_nested_list
```

Out[133…

	contact_name	contact_jobtitle	contact_email_domain	contact_department
0	Scott Moon	Installation/Service Manager	adapt.io	Support
1	Linda Wheeler	Support Service Supervisor	adapt.io	Support

I used meta to specify a list of metadata that was required for the result.

In [136…
```python
# To include companyname, companylocation  and companyrevenue
df_nested_list = pd.json_normalize(
    data,

    meta=['company_name', 'company_location','company_website','company_webdomain','company_industry','company_employee_size','company_revenue'],
    record_path =['contact_details']
)
df_nested_list
```

Out[136…

	contact_name	contact_jobtitle	contact_email_domain	contact_department	company_name	company_location	company_website	company_webdomain	company_industry	company_employee_size	company_reven
0	Scott Moon	Installation/Service Manager	adapt.io	Support	A + Communications and Security	Des Moines, Iowa, United States	https://www.adapt.io/company/a--communication...	adapt.io	Telecommunications	25-100	$0-
1	Linda Wheeler	Support Service Supervisor	adapt.io	Support	A + Communications and Security	Des Moines, Iowa, United States	https://www.adapt.io/company/a--communication...	adapt.io	Telecommunications	25-100	$0-

The create engine was imported from sqlalchemy to create a database json.

In [137…
```python
from sqlalchemy import create_engine
```

In [138…
```python
engine = create_engine('mysql+pymysql://root:@localhost/json')
```

I created a table using the following code.

In [139…
```python
df_nested_list.to_sql("companyprofile",con=engine)
```

The query result was displayed for companyprofile table.

In [140…
```python
con1 = pymysql.connect(host="localhost",user="root",password="",db="json")
```

In [141…
```python
cursor1 = con1.cursor()
```

In [142…
```python
cursor1.execute("select * from companyprofile")
```

Out[142…
```
2
```

Two means two samples in the table.

In [143…
```python
myresult1 = cursor1.fetchall()
```

The samples of companyprofile table is shown below.

In [144…
```python
for row in myresult1:
    print(row)
```

```
(0, 'Scott Moon', 'Installation/Service Manager', 'adapt.io', 'Support', 'A + Communications and Security', 'Des Moines, Iowa, United States', ' https://www.adapt.io/company/a--com
munications-and-security', 'adapt.io', 'Telecommunications', '25-100', '$0-1M')
(1, 'Linda Wheeler', 'Support Service Supervisor', 'adapt.io', 'Support', 'A + Communications and Security', 'Des Moines, Iowa, United States', ' https://www.adapt.io/company/a--co
mmunications-and-security', 'adapt.io', 'Telecommunications', '25-100', '$0-1M')
```

API testing using python - Write Test Case- Post Request

First, I obtained an API url for a website.

In [229…
```python
url = 'https://www.adapt.io/directory/industry/telecommunications/A-1'
```

Then I read the contents of json file.

In [261…
```python
json_data1 = open("C:/Users/Dell/PycharmProjects/company_index.json").read()
```

In [262…
```python
requests_json1 = json.loads(json_data1)
```

I posted request with Json Input body.

In [264…
```python
response = requests.post(url,requests_json1)
```

In [265…
```python
print(response.content)
```

```
b'<!DOCTYPE html><html lang="en-US"><head><meta charSet="utf-8"/><meta http-equiv="Content-Type" content="text/html; charset=UTF-8"/><meta name="viewport" content="width=device-wid
th, initial-scale=1"/><title>Companies in Telecommunications industry | Alphabet A | B2B Company List | Adapt.io</title><meta name="description" content="Find the companies and top
contacts working in Telecommunications industry that starts with alphabet A. Get the B2B company list at Adapt.io"/><link rel="icon" href="/favicon.ico"/><link rel="preconnect" hre
f="www.google-analytics.com"/><link rel="preconnect" href="www.googletagmanager.com"/><script>(function(w,d,s,l,i){w[l]=w[l]||[];w[l].push({\'gtm.start\':\n          new Date().get
Time(),event:\'gtm.js\'});var f=d.getElementsByTagName(s)[0],\n          j=d.createElement(s),dl=l!=\'dataLayer\'?\'&l=\'+l:\'\';j.async=true;j.src=\n          \'https://www.google
tagmanager.com/gtm.js?id=\'+i+dl;f.parentNode.insertBefore(j,f);\n          })(window,document,\'script\',\'dataLayer\', \'GTM-WJDZDLZ\');</script><meta name="next-head-count" cont
ent="9"/><link rel="preload" href="/_next/static/css/2e6840652acdb0c23422.css" as="style"/><link rel="stylesheet" href="/_next/static/css/2e6840652acdb0c23422.css" data-n-g=""/><li
nk rel="preload" href="/_next/static/css/07acec2f92c974ff3e18.css" as="style"/><link rel="stylesheet" href="/_next/static/css/07acec2f92c974ff3e18.css" data-n-p=""/><noscript data-
n-css=""></noscript><link rel="preload" href="/_next/static/chunks/main-7b0370ae5ee8ca69a8e3.js" as="script"/><link rel="preload" href="/_next/static/chunks/webpack-324a97b9e09a331
33866.js" as="script"/><link rel="preload" href="/_next/static/chunks/framework.eb7e4030fecc3bcac0db.js" as="script"/><link rel="preload" href="/_next/static/chunks/44ca27d0083750f
9c52e4c9c7da7ba5e37d0c178.7652ce0a15a0aa80a0a1.js" as="script"/><link rel="preload" href="/_next/static/chunks/pages/_app-e684ee83e9a1f6a153f2.js" as="script"/><link rel="preload"
href="/_next/static/chunks/e82996df.80fc43e08d188cb71862.js" as="script"/><link rel="preload" href="/_next/static/chunks/c0d53ec4.f13d42fc01398e9ef007.js" as="script"/><link rel="p
reload" href="/_next/static/chunks/3aabab4ccf84bf1027139b25c3cf6691b36093cc.d168ea96714052437202.js" as="script"/><link rel="preload" href="/_next/static/chunks/d5ea0434147ae872053
44fc99fa6f1a10ee48c6d.0896faa6ebfd9a40bdc9.js" as="script"/><link rel="preload" href="/_next/static/chunks/3a9a53ed6d026461dac72307bb72fdcc2922b04e.d49be9254d0721833d14.js" as="scr
ipt"/><link rel="preload" href="/_next/static/chunks/3a9a53ed6d026461dac72307bb72fdcc2922b04e_CSS.ceef42eb591200e32412.js" as="script"/><link rel="preload" href="/_next/static/chun
ks/pages/directory/industry/%5B...industryDirectorySeoPath%5D-5c73d6afb936901f63de.js" as="script"/><style id="__jsx-1445188424">.simpleButton.orangeBtn{border-radius:4px;color:#ff
[illegible]
e6817;}.simpleButton.orangeBorderBtn:hover{-webkit-text-decoration:none;text-decoration:none;}.simpleButton.orangeBtn .iconStart svg path{fill:#fff;}</style><style id="__jsx-377712
7176">.simpleButton.mailPhoneBtn{color:#3e3e40;border-radius:18px;border:solid 1px #cfd5fe;padding:9px 16px 5px;margin:10px 0 0;font-family:"Graphik-Regular";-webkit-align-items:fl
ex-start;-webkit-box-align:flex-start;-ms-flex-align:flex-start;align-items:flex-start;word-break:break-all;text-align:left;}.simpleButton.mailPhoneBtn:hover{background-color:#f6f7
ff;}.simpleButton.mailPhoneBtn.phoneBtn{border-color:#ffdac7;}.simpleButton.mailPhoneBtn.phoneBtn:hover{background-color:#fff4ee;}.simpleButton.mailPhoneBtn .iconStart svg{width:13
px;height:13px;}.simpleButton.phoneBtn .iconStart svg path{fill:#45548c;}</style></head><body><div id="__next"><div class="Directory_container__3HjWL directoryPage"><noscript><ifra
me src="https://www.googletagmanager.com/ns.html?id=GTM-WJDZDLZ"\n          height="0" width="0" style="display:none;visibility:hidden"></iframe></noscript><main><div class="Header
_headerContainer__TIQpL"><div class="Header_headerWrapper__1_mv-"><a class="Logo_logo__yhxeF" href="https://www.adapt.io">adapt</a><div class="Menu_menuContainer__1ZRHY "><div clas
s="Menu_mobileMenuContainer__6juf8"><svg xmlns="http://www.w3.org/2000/svg" viewBox="0 0 24 24" width="48" height="48"><path d="M0 0h24v24H0z" fill="none"/><path d="M3 18h18v-2H3v2
zm0-5h18v-2H3v2zm0-7v2h18V6H3z"/></svg></div><div class="Menu_mobileMenuMask__3DYUa"></div><div class="Menu_menuList__u91dk"><div class="Menu_menuItem__2uFdv Menu_hasSubMenu__2vmy
I"><a href="https://www.adapt.io/products/lead-builder/">Products</a><span class="Menu_subMenuList__HSM9c"><a href="https://www.adapt.io/products/lead-builder/">Lead Builder</a><a
href="https://www.adapt.io/products/prospector/">Prospector</a></span></div><div class="Menu_menuItem__2uFdv Menu_hasSubMenu__2vmyI"><a href="https://www.adapt.io/solutions/marketi
ng/">Solutions</a><span class="Menu_subMenuList__HSM9c"><a href="https://www.adapt.io/solutions/marketing/">Marketing</a><a href="https://www.adapt.io/solutions/sales/">Sales</a><a
href="https://www.adapt.io/solutions/recruiting/">Recruiting</a></span></div><a href="https://www.adapt.io/pricing.htm" itemProp="url" class="Menu_menuItem__2uFdv Menu_noSubMenu__3
ygY2">Pricing</a><a href="https://www.adapt.io/api-documentation.htm" itemProp="url" rel="nofollow" class="Menu_menuItem__2uFdv Menu_noSubMenu__3ygY2">API</a><div class="Menu_menuI
tem__2uFdv Menu_hasSubMenu__2vmyI"><a href="/about" itemProp="url">About</a><span class="Menu_subMenuList__HSM9c"><a href="/about" target="_blank">Our Story</a><a href="/about/our-
data" target="_blank">Our Data</a><a href="/about/team" target="_blank">Team</a><a href="/careers/" target="_blank">Careers</a><a href="/about/adapt-scholarship/" rel="nofollow" ta
rget="_blank" itemProp="url">Scholarship Program</a><a href="/about/customer-testimonials/" target="_blank" itemProp="url">Customer Testimonials</a></span></div><a href="/blog" tar
get="_blank" class="Menu_menuItem__2uFdv">Blog</a><a href="https://www.adapt.io/login.htm?slc=web&amp;login=true" class="Menu_menuItem__2uFdv Menu_noSubMenu__3ygY2" itemProp="url">
Sign In</a><a itemProp="url" href="https://www.adapt.io/request-demo/" class="Menu_menuItem__2uFdv Menu_noSubMenu__3ygY2 Menu_requestDemoBtn__1bysr">REQUEST DEMO</a></div></div></d
iv></div><div class="DirectoryPage_directoryPageContainer__1NdWc" itemscope="" itemType="http://schema.org/Organization"><div class="DirectoryTopInfo_directoryTopInfoContainer__35R
Pf"><div class="DirectoryTopInfo_roundedBorder__wcfEm DirectoryTopInfo_infoWrapper__UknMm"><h1>Industry Directory - Telecommunications - A - 1</h1><div class="DirectoryTopInfo_alph
abetLinkListWrapper__4a1SM"><div class="DirectoryTopInfo_linkItemWrapper__2MyQQ DirectoryTopInfo_activeLinkWrapper__3CoZV"><a content="https://www.adapt.io/directory/industry/telec
ommunications/A-1" href="https://www.adapt.io/directory/industry/telecommunications/A-1">A</a></div><div class="DirectoryTopInfo_linkItemWrapper__2MyQQ "><a content="https://www.ad
apt.io/directory/industry/telecommunications/B-1" href="https://www.adapt.io/directory/industry/telecommunications/B-1">B</a></div><div class="DirectoryTopInfo_linkItemWrapper__2My
QQ "><a content="https://www.adapt.io/directory/industry/telecommunications/C-1" href="https://www.adapt.io/directory/industry/telecommunications/C-1">C</a></div><div class="Direct
oryTopInfo_linkItemWrapper__2MyQQ "><a content="https://www.adapt.io/directory/industry/telecommunications/D-1" href="https://www.adapt.io/directory/industry/telecommunications/D-
1">D</a></div><div class="DirectoryTopInfo_linkItemWrapper__2MyQQ "><a content="https://www.adapt.io/directory/industry/telecommunications/E-1" href="https://www.adapt.io/director
y/industry/telecommunications/E-1">E</a></div><div class="DirectoryTopInfo_linkItemWrapper__2MyQQ "><a content="https://www.adapt.io/directory/industry/telecommunications/F-1" href
="https://www.adapt.io/directory/industry/telecommunications/F-1">F</a></div><div class="DirectoryTopInfo_linkItemWrapper__2MyQQ "><a content="https://www.adapt.io/directory/indust
ry/telecommunications/G-1" href="https://www.adapt.io/directory/industry/telecommunications/G-1">G</a></div><div class="DirectoryTopInfo_linkItemWrapper__2MyQQ "><a content="http
s://www.adapt.io/directory/industry/telecommunications/H-1" href="https://www.adapt.io/directory/industry/telecommunications/H-1">H</a></div><div class="DirectoryTopInfo_linkItemWr
apper__2MyQQ "><a content="https://www.adapt.io/directory/industry/telecommunications/I-1" href="https://www.adapt.io/directory/industry/telecommunications/I-1">I</a></div><div cla
ss="DirectoryTopInfo_linkItemWrapper__2MyQQ "><a content="https://www.adapt.io/directory/industry/telecommunications/J-1" href="https://www.adapt.io/directory/industry/telecommunic
ations/J-1">J</a></div><div class="DirectoryTopInfo_linkItemWrapper__2MyQQ "><a content="https://www.adapt.io/directory/industry/telecommunications/K-1" href="https://www.adapt.io/
directory/industry/telecommunications/K-1">K</a></div><div class="DirectoryTopInfo_linkItemWrapper__2MyQQ "><a content="https://www.adapt.io/directory/industry/telecommunications/L
-1" href="https://www.adapt.io/directory/industry/telecommunications/L-1">L</a></div><div class="DirectoryTopInfo_linkItemWrapper__2MyQQ "><a content="https://www.adapt.io/director
y/industry/telecommunications/M-1" href="https://www.adapt.io/directory/industry/telecommunications/M-1">M</a></div><div class="DirectoryTopInfo_linkItemWrapper__2MyQQ "><a content
="https://www.adapt.io/directory/industry/telecommunications/N-1" href="https://www.adapt.io/directory/industry/telecommunications/N-1">N</a></div><div class="DirectoryTopInfo_link
ItemWrapper__2MyQQ "><a content="https://www.adapt.io/directory/industry/telecommunications/O-1" href="https://www.adapt.io/directory/industry/telecommunications/O-1">O</a></div><d
iv class="DirectoryTopInfo_linkItemWrapper__2MyQQ "><a content="https://www.adapt.io/directory/industry/telecommunications/P-1" href="https://www.adapt.io/directory/industry/teleco
mmunications/P-1">P</a></div><div class="DirectoryTopInfo_linkItemWrapper__2MyQQ "><a content="https://www.adapt.io/directory/industry/telecommunications/Q-1" href="https://www.ada
pt.io/directory/industry/telecommunications/Q-1">Q</a></div><div class="DirectoryTopInfo_linkItemWrapper__2MyQQ "><a content="https://www.adapt.io/directory/industry/telecommunicat
ions/R-1" href="https://www.adapt.io/directory/industry/telecommunications/R-1">R</a></div><div class="DirectoryTopInfo_linkItemWrapper__2MyQQ "><a content="https://www.adapt.io/di
rectory/industry/telecommunications/S-1" href="https://www.adapt.io/directory/industry/telecommunications/S-1">S</a></div><div class="DirectoryTopInfo_linkItemWrapper__2MyQQ "><a c
ontent="https://www.adapt.io/directory/industry/telecommunications/T-1" href="https://www.adapt.io/directory/industry/telecommunications/T-1">T</a></div><div class="DirectoryTopInf
o_linkItemWrapper__2MyQQ "><a content="https://www.adapt.io/directory/industry/telecommunications/U-1" href="https://www.adapt.io/directory/industry/telecommunications/U-1">U</a></
div><div class="DirectoryTopInfo_linkItemWrapper__2MyQQ "><a content="https://www.adapt.io/directory/industry/telecommunications/V-1" href="https://www.adapt.io/directory/industry/
telecommunications/V-1">V</a></div><div class="DirectoryTopInfo_linkItemWrapper__2MyQQ "><a content="https://www.adapt.io/directory/industry/telecommunications/W-1" href="https://w
ww.adapt.io/directory/industry/telecommunications/W-1">W</a></div><div class="DirectoryTopInfo_linkItemWrapper__2MyQQ "><a content="https://www.adapt.io/directory/industry/telecomm
unications/X-1" href="https://www.adapt.io/directory/industry/telecommunications/X-1">X</a></div><div class="DirectoryTopInfo_linkItemWrapper__2MyQQ "><a content="https://www.adap
t.io/directory/industry/telecommunications/Y-1" href="https://www.adapt.io/directory/industry/telecommunications/Y-1">Y</a></div><div class="DirectoryTopInfo_linkItemWrapper__2MyQQ
"><a content="https://www.adapt.io/directory/industry/telecommunications/Z-1" href="https://www.adapt.io/directory/industry/telecommunications/Z-1">Z</a></div></div></div><di
v class="DirectoryList_directoryListContainer__7AiMy"><div class="DirectoryList_roundedBorder__3kE22 DirectoryList_infoWrapper__A0-sM"><div class="DirectoryList_seoDirectoryList__a
Maj8"><div class="DirectoryList_linkItemWrapper__3F2UE "><a content="https://www.adapt.io/company/a--communications-and-security" href="https://www.adapt.io/company/a--communicatio
ns-and-security">A + Communications and Security</a></div><div class="DirectoryList_linkItemWrapper__3F2UE "><a content="https://www.adapt.io/company/a-a-technology-group" href="ht
tps://www.adapt.io/company/a-a-technology-group">A&amp;A Technology Group</a></div><div class="DirectoryList_linkItemWrapper__3F2UE "><a content="https://www.adapt.io/company/a-bet
ter-answer-4" href="https://www.adapt.io/company/a-better-answer-4">A Better Answer</a></div><div class="DirectoryList_linkItemWrapper__3F2UE "><a content="https://www.adapt.io/com
pany/a-cheerful-giver-inc-1" href="https://www.adapt.io/company/a-cheerful-giver-inc-1">A Cheerful Giver</a></div><div class="DirectoryList_linkItemWrapper__3F2UE "><a content="htt
ps://www.adapt.io/company/a-cti-1" href="https://www.adapt.io/company/a-cti-1">A-CTI</a></div><div class="DirectoryList_linkItemWrapper__3F2UE "><a content="https://www.adapt.io/co
mpany/a-p-g-inc" href="https://www.adapt.io/company/a-p-g-inc">A P G Inc</a></div><div class="DirectoryList_linkItemWrapper__3F2UE "><a content="https://www.adapt.io/company/a-r-ma
nagement-solutions--llc" href="https://www.adapt.io/company/a-r-management-solutions--llc">Crexendo Business Solutions</a></div><div class="DirectoryList_linkItemWrapper__3F2UE "><
a content="https://www.adapt.io/company/a-v--lauttamus-communications--inc-" href="https://www.adapt.io/company/a-v--lauttamus-communications--inc-">A.V. Lauttamus Communications,
Inc.</a></div><div class="DirectoryList_linkItemWrapper__3F2UE "><a content="https://www.adapt.io/company/a-v-services--inc-" href="https://www.adapt.io/company/a-v-services--inc-
">A-V Services, Inc.</a></div><div class="DirectoryList_linkItemWrapper__3F2UE "><a content="https://www.adapt.io/company/a1-teletronics-inc-" href="https://www.adapt.io/company/a1
-teletronics-inc-">A1 Teletronics</a></div><div class="DirectoryList_linkItemWrapper__3F2UE "><a content="https://www.adapt.io/company/abacus-group--inc--1" href="https://www.adap
t.io/company/abacus-group--inc--1">Abacus Group, Inc.</a></div><div class="DirectoryList_linkItemWrapper__3F2UE "><a content="https://www.adapt.io/company/abadi-group-1" href="http
s://www.adapt.io/company/abadi-group-1">Abadi Group</a></div><div class="DirectoryList_linkItemWrapper__3F2UE "><a content="https://www.adapt.io/company/abcom-llc" href="https://ww
w.adapt.io/company/abcom-llc">ABcom</a></div><div class="DirectoryList_linkItemWrapper__3F2UE "><a content="https://www.adapt.io/company/abilita-5" href="https://www.adapt.io/compa
ny/abilita-5">Abilita</a></div><div class="DirectoryList_linkItemWrapper__3F2UE "><a content="https://www.adapt.io/company/abis-3" href="https://www.adapt.io/company/abis-3">ABIS</
a></div><div class="DirectoryList_linkItemWrapper__3F2UE "><a content="https://www.adapt.io/company/abmnus-llc" href="https://www.adapt.io/company/abmnus-llc">Abmnus</a></div><div
class="DirectoryList_linkItemWrapper__3F2UE "><a content="https://www.adapt.io/company/about-wireless-1" href="https://www.adapt.io/company/about-wireless-1">Wireless USA</a></div>
<div class="DirectoryList_linkItemWrapper__3F2UE "><a content="https://www.adapt.io/company/abovenet-2" href="https://www.adapt.io/company/abovenet-2">AboveNet</a></div><div class
="DirectoryList_linkItemWrapper__3F2UE "><a content="https://www.adapt.io/company/abr-industries" href="https://www.adapt.io/company/abr-industries">ABR Industries</a></div><div cl
ass="DirectoryList_linkItemWrapper__3F2UE "><a content="https://www.adapt.io/company/abs-communications-llc" href="https://www.adapt.io/company/abs-communications-llc">ABS Communic
ations</a></div><div class="DirectoryList_linkItemWrapper__3F2UE "><a content="https://www.adapt.io/company/absolute-wireless-" href="https://www.adapt.io/company/absolute-wireless
-">Absolute Wireless</a></div><div class="DirectoryList_linkItemWrapper__3F2UE "><a content="https://www.adapt.io/company/ac-photonics" href="https://www.adapt.io/company/ac-photon
ics">acphotonics</a></div><div class="DirectoryList_linkItemWrapper__3F2UE "><a content="https://www.adapt.io/company/acacia-communications-inc-" href="https://www.adapt.io/compan
y/acacia-communications-inc-">Acacia Communications</a></div><div class="DirectoryList_linkItemWrapper__3F2UE "><a content="https://www.adapt.io/company/acbb-bits-llc" href="http
s://www.adapt.io/company/acbb-bits-llc">ACBB-BITS LLC</a></div><div class="DirectoryList_linkItemWrapper__3F2UE "><a content="https://www.adapt.io/company/acc-business" href="http
s://www.adapt.io/company/acc-business">ACC Business</a></div><div class="DirectoryList_linkItemWrapper__3F2UE "><a content="https://www.adapt.io/company/acceltex-solutions-2" href
="https://www.adapt.io/company/acceltex-solutions-2">AccelTex Solutions</a></div><div class="DirectoryList_linkItemWrapper__3F2UE "><a content="https://www.adapt.io/company/accesra
dio-com" href="https://www.adapt.io/company/accesradio-com">Acces Communications</a></div><div class="DirectoryList_linkItemWrapper__3F2UE "><a content="https://www.adapt.io/compan
y/access-communications-cooperative-limited" href="https://www.adapt.io/company/access-communications-cooperative-limited">Access Communications Cooperative Limited</a></div><div c
lass="DirectoryList_linkItemWrapper__3F2UE "><a content="https://www.adapt.io/company/access-point--inc--1" href="https://www.adapt.io/company/access-point--inc--1">Access Point, I
nc.</a></div><div class="DirectoryList_linkItemWrapper__3F2UE "><a content="https://www.adapt.io/company/access-vermont" href="https://www.adapt.io/company/access-vermont">Access V
ermont</a></div><div class="DirectoryList_linkItemWrapper__3F2UE "><a content="https://www.adapt.io/company/access-wireless-data-solutions" href="https://www.adapt.io/company/acces
s-wireless-data-solutions">Access Wireless Data Solutions</a></div><div class="DirectoryList_linkItemWrapper__3F2UE "><a content="https://www.adapt.io/company/accordent-technologie
s" href="https://www.adapt.io/company/accordent-technologies">Polycom</a></div><div class="DirectoryList_linkItemWrapper__3F2UE "><a content="https://www.adapt.io/company/accrotool
-com" href="https://www.adapt.io/company/accrotool-com">accrotool.com</a></div><div class="DirectoryList_linkItemWrapper__3F2UE "><a content="https://www.adapt.io/company/accu-tech
-corporation-1" href="https://www.adapt.io/company/accu-tech-corporation-1">Accu-Tech</a></div><div class="DirectoryList_linkItemWrapper__3F2UE "><a content="https://www.adapt.io/c
ompany/accuair--inc-" href="https://www.adapt.io/company/accuair--inc-">AccuAir, Inc.</a></div><div class="DirectoryList_linkItemWrapper__3F2UE "><a content="https://www.adapt.io/c
ompany/accuconference" href="https://www.adapt.io/company/accuconference">AccuConference</a></div><div class="DirectoryList_linkItemWrapper__3F2UE "><a content="https://www.adapt.i
o/company/accurate-connections--inc-" href="https://www.adapt.io/company/accurate-connections--inc-">Accurate Connections, Inc.</a></div><div class="DirectoryList_linkItemWrapper__
3F2UE "><a content="https://www.adapt.io/company/accurate-telecom-1" href="https://www.adapt.io/company/accurate-telecom-1">Accurate Telecom</a></div><div class="DirectoryList_link
ItemWrapper__3F2UE "><a content="https://www.adapt.io/company/accutel-com-1" href="https://www.adapt.io/company/accutel-com-1">Accutel</a></div><div class="DirectoryList_linkItemWr
apper__3F2UE "><a content="https://www.adapt.io/company/accuvoice-inc-" href="https://www.adapt.io/company/accuvoice-inc-">Accuvoice Inc.</a></div><div class="DirectoryList_linkIte
mWrapper__3F2UE "><a content="https://www.adapt.io/company/acd-direct" href="https://www.adapt.io/company/acd-direct">ACD Direct</a></div><div class="DirectoryList_linkItemWrapper_
[illegible]
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k":"A"},"seoDirectoryData":{"metaTitle":"Companies in Telecommunications industry | Alphabet A | B2B Company List | Adapt.io","metaDescription":"Find the companies and top contacts
working in Telecommunications industry that starts with alphabet A. Get the B2B company list at Adapt.io","seoListLinks":[{"seoUrl":"a--communications-and-security","name":"A + Com
munications and Security"},{"seoUrl":"a-a-technology-group","name":"A\\u0026A Technology Group"},{"seoUrl":"a-better-answer-4","name":"A Better Answer"},{"seoUrl":"a-cheerful-giver
-inc-1","name":"A Cheerful Giver"},{"seoUrl":"a-cti-1","name":"A-CTI"},{"seoUrl":"a-p-g-inc","name":"A P G Inc"},{"seoUrl":"a-r-management-solutions--llc","name":"Crexendo Business
Solutions"},{"seoUrl":"a-v--lauttamus-communications--inc-","name":"A.V. Lauttamus Communications, Inc."},{"seoUrl":"a-v-services--inc-","name":"A-V Services, Inc."},{"seoUrl":"a1-
teletronics-inc-","name":"A1 Teletronics"},{"seoUrl":"abacus-group--inc--1","name":"Abacus Group, Inc."},{"seoUrl":"abadi-group-1","name":"Abadi Group"},{"seoUrl":"abcom-llc","nam
e":"ABcom"},{"seoUrl":"abilita-5","name":"Abilita"},{"seoUrl":"abis-3","name":"ABIS"},{"seoUrl":"abmnus-llc","name":"Abmnus"},{"seoUrl":"about-wireless-1","name":"Wireless USA"},
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reless-","name":"Absolute Wireless"},{"seoUrl":"ac-photonics","name":"acphotonics"},{"seoUrl":"acacia-communications-inc-","name":"Acacia Communications"},{"seoUrl":"acbb-bits-ll
c","name":"ACBB-BITS LLC"},{"seoUrl":"acc-business","name":"ACC Business"},{"seoUrl":"acceltex-solutions-2","name":"AccelTex Solutions"},{"seoUrl":"accesradio-com","name":"Acces Co
mmunications"},{"seoUrl":"access-communications-cooperative-limited","name":"Access Communications Cooperative Limited"},{"seoUrl":"access-point--inc--1","name":"Access Point, In
c."},{"seoUrl":"access-vermont","name":"Access Vermont"},{"seoUrl":"access-wireless-data-solutions","name":"Access Wireless Data Solutions"},{"seoUrl":"accordent-technologies","nam
e":"Polycom"},{"seoUrl":"accrotool-com","name":"accrotool.com"},{"seoUrl":"accu-tech-corporation-1","name":"Accu-Tech"},{"seoUrl":"accuair--inc-","name":"AccuAir, Inc."},{"seoUr
l":"accuconference","name":"AccuConference"},{"seoUrl":"accurate-connections--inc-","name":"Accurate Connections, Inc."},{"seoUrl":"accurate-telecom-1","name":"Accurate Telecom"},
{"seoUrl":"accutel-com-1","name":"Accutel"},{"seoUrl":"accuvoice-inc-","name":"Accuvoice Inc."},{"seoUrl":"acd-direct","name":"ACD Direct"},{"seoUrl":"acecape-inc-","name":"Acecape
Inc."},{"seoUrl":"acg-systems--inc-1","name":"ACG Systems"},{"seoUrl":"aci-communications--inc-","name":"ACI Communications"},{"seoUrl":"acision-2","name":"Acision"},{"seoUrl":"acn
-29","name":"ACN"},{"seoUrl":"acn-30","name":"Lkn Communications Inc."},{"seoUrl":"acotel-groupo-1","name":"Acotel"},{"seoUrl":"acpltd-ca","name":"Argosy Communication Products Lt
d."}],"nextUrl":"A-2","prevUrl":null,"industryName":"Telecommunications","activePath":"A","activePathNumber":1,"alphabetPrefixLink":"/directory/industry/telecommunications"},"seoPa
th":"telecommunications/A-1"},"__N_SSP":true},"page":"/directory/industry/[...industryDirectorySeoPath]","query":{"industryDirectorySeoPath":["telecommunications","A-1"]},"buildI
d":"L61aXl6qr4EBsldiDW3ux","isFallback":false,"gssp":true,"locale":"en-US","locales":["en-US"],"defaultLocale":"en-US"}</script><script nomodule="" src="/_next/static/chunks/polyfi
lls-68084dacc4bae4cb362b.js"></script><script src="/_next/static/chunks/main-7b0370ae5ee8ca69a8e3.js" async=""></script><script src="/_next/static/chunks/webpack-324a97b9e09a331338
66.js" async=""></script><script src="/_next/static/chunks/framework.eb7e4030fecc3bcac0db.js" async=""></script><script src="/_next/static/chunks/44ca27d0083750f9c52e4c9c7da7ba5e37
d0c178.7652ce0a15a0aa80a0a1.js" async=""></script><script src="/_next/static/chunks/pages/_app-e684ee83e9a1f6a153f2.js" async=""></script><script src="/_next/static/chunks/e82996d
f.80fc43e08d188cb71862.js" async=""></script><script src="/_next/static/chunks/c0d53ec4.f13d42fc01398e9ef007.js" async=""></script><script src="/_next/static/chunks/3aabab4ccf84bf1
027139b25c3cf6691b36093cc.d168ea96714052437202.js" async=""></script><script src="/_next/static/chunks/d5ea0434147ae87205344fc99fa6f1a10ee48c6d.0896faa6ebfd9a40bdc9.js" async=""></
script><script src="/_next/static/chunks/3a9a53ed6d026461dac72307bb72fdcc2922b04e.d49be9254d0721833d14.js" async=""></script><script src="/_next/static/chunks/3a9a53ed6d026461dac72
307bb72fdcc2922b04e_CSS.ceef42eb591200e32412.js" async=""></script><script src="/_next/static/chunks/pages/directory/industry/%5B...industryDirectorySeoPath%5D-5c73d6afb936901f63d
e.js" async=""></script><script src="/_next/static/L61aXl6qr4EBsldiDW3ux/_buildManifest.js" async=""></script><script src="/_next/static/L61aXl6qr4EBsldiDW3ux/_ssgManifest.js" asyn
c=""></script></body></html>'
```

Validating Response code

In [266…
```python
assert response.status_code == 200
```

The assertion is passed. We see that the response status code is matched the response code.

Fetch Header from Response

In [267…
```python
print(response.headers)
```

```
{'Date': 'Wed, 25 Aug 2021 16:35:02 GMT', 'Content-Type': 'text/html; charset=utf-8', 'Transfer-Encoding': 'chunked', 'Connection': 'keep-alive', 'Set-Cookie': 'AWSALB=2D+tYrm5Ahp
D/QTG9LUjJVoMerKHDRH0C12Quz0Ip06nIF58C0yhgCiDqgdSDfXkmzr4hXc/v9hG0HajMRNWzGuT7OqsXy/0RbmhmFHm73MWt0vYfmtcsIrNK4CI; Expires=Wed, 01 Sep 2021 16:35:01 GMT; Path=/, AWSALBCORS=2D+tYrm
5AhpD/QTG9LUjJVoMerKHDRH0C12Quz0Ip06nIF58C0yhgCiDqgdSDfXkmzr4hXc/v9hG0HajMRNWzGuT7OqsXy/0RbmhmFHm73MWt0vYfmtcsIrNK4CI; Expires=Wed, 01 Sep 2021 16:35:01 GMT; Path=/; SameSite=None;
Secure', 'Server': 'nginx', 'X-Powered-By': 'Next.js', 'ETag': '"6efb-rYHSC6IoN2NNNv+A9qf5Xh/RKc4"', 'Cache-Control': 'private, no-cache, no-store, max-age=0, must-revalidate', 'Va
ry': 'Accept-Encoding', 'Content-Encoding': 'gzip', 'X-Upstream': 'seopages'}
```

In [268…
```python
print(response.headers.get('Content-Type'))
```

```
text/html; charset=utf-8
```

API testing using python - Write Test Case- PUT Request

In [269…
```python
url = 'https://www.adapt.io/directory/industry/telecommunications/A-1'
```

In [271…
```python
json_data2 = open("C:/Users/Dell/PycharmProjects/company_index.json").read()
```

In [272…
```python
requests_json2 = json.loads(json_data2)
```

Code for the put request with Json Input body.

In [275…
```python
response2 = requests.put(url,requests_json2)
```

In [276…
```python
print(response2.content)
```

```
b'<!DOCTYPE html><html lang="en-US"><head><meta charSet="utf-8"/><meta http-equiv="Content-Type" content="text/html; charset=UTF-8"/><meta name="viewport" content="width=device-wid
th, initial-scale=1"/><title>Companies in Telecommunications industry | Alphabet A | B2B Company List | Adapt.io</title><meta name="description" content="Find the companies and top
contacts working in Telecommunications industry that starts with alphabet A. Get the B2B company list at Adapt.io"/><link rel="icon" href="/favicon.ico"/><link rel="preconnect" hre
f="www.google-analytics.com"/><link rel="preconnect" href="www.googletagmanager.com"/><script>(function(w,d,s,l,i){w[l]=w[l]||[];w[l].push({\'gtm.start\':\n          new Date().get
Time(),event:\'gtm.js\'});var f=d.getElementsByTagName(s)[0],\n          j=d.createElement(s),dl=l!=\'dataLayer\'?\'&l=\'+l:\'\';j.async=true;j.src=\n          \'https://www.google
tagmanager.com/gtm.js?id=\'+i+dl;f.parentNode.insertBefore(j,f);\n          })(window,document,\'script\',\'dataLayer\', \'GTM-WJDZDLZ\');</script><meta name="next-head-count" cont
ent="9"/><link rel="preload" href="/_next/static/css/2e6840652acdb0c23422.css" as="style"/><link rel="stylesheet" href="/_next/static/css/2e6840652acdb0c23422.css" data-n-g=""/><li
nk rel="preload" href="/_next/static/css/07acec2f92c974ff3e18.css" as="style"/><link rel="stylesheet" href="/_next/static/css/07acec2f92c974ff3e18.css" data-n-p=""/><noscript data-
n-css=""></noscript><link rel="preload" href="/_next/static/chunks/main-7b0370ae5ee8ca69a8e3.js" as="script"/><link rel="preload" href="/_next/static/chunks/webpack-324a97b9e09a331
33866.js" as="script"/><link rel="preload" href="/_next/static/chunks/framework.eb7e4030fecc3bcac0db.js" as="script"/><link rel="preload" href="/_next/static/chunks/44ca27d0083750f
9c52e4c9c7da7ba5e37d0c178.7652ce0a15a0aa80a0a1.js" as="script"/><link rel="preload" href="/_next/static/chunks/pages/_app-e684ee83e9a1f6a153f2.js" as="script"/><link rel="preload"
href="/_next/static/chunks/e82996df.80fc43e08d188cb71862.js" as="script"/><link rel="preload" href="/_next/static/chunks/c0d53ec4.f13d42fc01398e9ef007.js" as="script"/><link rel="p
[illegible]
mmunications"},{"seoUrl":"access-communications-cooperative-limited","name":"Access Communications Cooperative Limited"},{"seoUrl":"access-point--inc--1","name":"Access Point, In
c."},{"seoUrl":"access-vermont","name":"Access Vermont"},{"seoUrl":"access-wireless-data-solutions","name":"Access Wireless Data Solutions"},{"seoUrl":"accordent-technologies","nam
e":"Polycom"},{"seoUrl":"accrotool-com","name":"accrotool.com"},{"seoUrl":"accu-tech-corporation-1","name":"Accu-Tech"},{"seoUrl":"accuair--inc-","name":"AccuAir, Inc."},{"seoUr
l":"accuconference","name":"AccuConference"},{"seoUrl":"accurate-connections--inc-","name":"Accurate Connections, Inc."},{"seoUrl":"accurate-telecom-1","name":"Accurate Telecom"},
{"seoUrl":"accutel-com-1","name":"Accutel"},{"seoUrl":"accuvoice-inc-","name":"Accuvoice Inc."},{"seoUrl":"acd-direct","name":"ACD Direct"},{"seoUrl":"acecape-inc-","name":"Acecape
Inc."},{"seoUrl":"acg-systems--inc-1","name":"ACG Systems"},{"seoUrl":"aci-communications--inc-","name":"ACI Communications"},{"seoUrl":"acision-2","name":"Acision"},{"seoUrl":"acn
-29","name":"ACN"},{"seoUrl":"acn-30","name":"Lkn Communications Inc."},{"seoUrl":"acotel-groupo-1","name":"Acotel"},{"seoUrl":"acpltd-ca","name":"Argosy Communication Products Lt
d."}],"nextUrl":"A-2","prevUrl":null,"industryName":"Telecommunications","activePath":"A","activePathNumber":1,"alphabetPrefixLink":"/directory/industry/telecommunications"},"seoPa
th":"telecommunications/A-1"},"__N_SSP":true},"page":"/directory/industry/[...industryDirectorySeoPath]","query":{"industryDirectorySeoPath":["telecommunications","A-1"]},"buildI
d":"L61aXl6qr4EBsldiDW3ux","isFallback":false,"gssp":true,"locale":"en-US","locales":["en-US"],"defaultLocale":"en-US"}</script><script nomodule="" src="/_next/static/chunks/polyfi
lls-68084dacc4bae4cb362b.js"></script><script src="/_next/static/chunks/main-7b0370ae5ee8ca69a8e3.js" async=""></script><script src="/_next/static/chunks/webpack-324a97b9e09a331338
66.js" async=""></script><script src="/_next/static/chunks/framework.eb7e4030fecc3bcac0db.js" async=""></script><script src="/_next/static/chunks/44ca27d0083750f9c52e4c9c7da7ba5e37
d0c178.7652ce0a15a0aa80a0a1.js" async=""></script><script src="/_next/static/chunks/pages/_app-e684ee83e9a1f6a153f2.js" async=""></script><script src="/_next/static/chunks/e82996d
f.80fc43e08d188cb71862.js" async=""></script><script src="/_next/static/chunks/c0d53ec4.f13d42fc01398e9ef007.js" async=""></script><script src="/_next/static/chunks/3aabab4ccf84bf1
027139b25c3cf6691b36093cc.d168ea96714052437202.js" async=""></script><script src="/_next/static/chunks/d5ea0434147ae87205344fc99fa6f1a10ee48c6d.0896faa6ebfd9a40bdc9.js" async=""></
script><script src="/_next/static/chunks/3a9a53ed6d026461dac72307bb72fdcc2922b04e.d49be9254d0721833d14.js" async=""></script><script src="/_next/static/chunks/3a9a53ed6d026461dac72
307bb72fdcc2922b04e_CSS.ceef42eb591200e32412.js" async=""></script><script src="/_next/static/chunks/pages/directory/industry/%5B...industryDirectorySeoPath%5D-5c73d6afb936901f63d
e.js" async=""></script><script src="/_next/static/L61aXl6qr4EBsldiDW3ux/_buildManifest.js" async=""></script><script src="/_next/static/L61aXl6qr4EBsldiDW3ux/_ssgManifest.js" asyn
c=""></script></body></html>'
```

In [277…
```python
assert response2.status_code == 200
```

I used InnoDB as it is a storage engine of MySQL. MySQL uses this database by default, and in my opinion, InnoDB balances high reliability and performance.