SENDGRID INTEGRATION WITH PYTHON

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Project Name	NUTRITION ASSISTANT APPLICATION

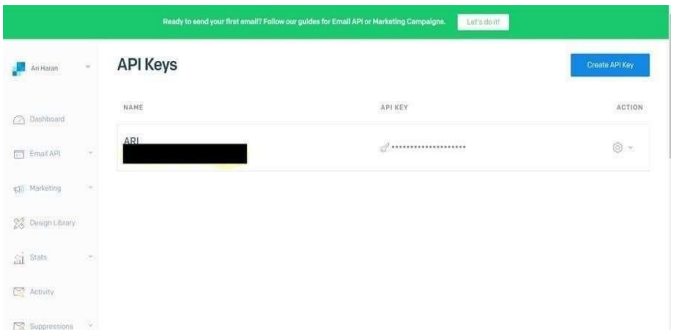
STEP 1:

Requirements:

Python 2.6, 2.7, 3.4 or 3.5.

STEP 2:

Creating an API key



STEP 3:

INSTALL
PAKAGE: > pip install sendgrid

SETP 4:

SENDGRID PYTHON CODE :

```
"""HTTP Client library""" import json
import logging
from .exceptions import handle_error
try:

# Python 3
import urllib.request as urllib
from urllib.parse import urlencode from urllib.error import HTTPError
except ImportError:

#python 2
import os
from sendgrid import SendGridAPIClient
from sendgrid.helpers.mail import Mail
message = Mail( from_email='from_email@example.com', to_emails='to@example.com',
subject='Sending with Twilio SendGrid is Fun', html_content='<strong>and easy to do anywhere, even
with Python</strong>')
try:
sg = SendGridAPIClient(os.environ.get('SENDGRID_API_KEY')) response = sg.send(message)
print(response.status_code)
print(response.body) 15 print(response.headers) 16 except Exception as e:
print(e.message)
```

HTTP CLIENT PROGRAM:

```
HTTP CLIENT PROGRAM:
 import urllib2 as
from urllib2 import HTTPError
from urllib import urlencode
_logger = logging.getLogger( name )
class Response(object):
"""Holds the response from an API call.""" 22
def init (self, response):
"""
:param response: The return value from a open call
on a urllib.build_opener()
:type response: urllib response object """
self._status_code = response.getcode() self._body = response.read()
self._headers = response.info()

@property


def status_code(self):
     """
     :return: integer, status code of API call 37    """
     return self._status_code 39
     @property
     def body(self):
     """
     :return: response from the API
     """
     return self._body


     @property

def headers(self):
"""
:return: dict of response headers """
return self._headers

@property
def to_dict(self):
```

```
"""
:return: dict of response from the API """
if self.body:
return json.loads(self.body.decode('utf-8')) else:
return None



class Client(object):
"""Quickly and easily access any REST or REST-like API.""" 67 # These are the
supported HTTP verbs
methods = {'delete', 'get', 'patch', 'post', 'put'} 70 def init (self,
host, request_headers=None, version=None,
url_path=None,

append_slash=False, 77  timeout=None);
:param host: Base URL for the api. (e.g. https://api.sendgrid.com)
:type host: string
:param request_headers: A dictionary of the headers you want

:type request_headers: dictionary
:param version: The version number of the API.
Subclass _build_versioned_url for custom behavior.

Or just pass the version as part of the URL (e.g. client._("/v3"))
:type version: integer
:param url_path: A list of the url path segments
:type url_path: list of strings """
self.host = host
self.request_headers = request_headers or {} self._version = version
# _url_path keeps track of the dynamically built url
self._url_path = url_path or []

# APPEND SLASH set
self.append_slash = append_slash self.timeout = timeout
def _build_versioned_url(self, url):

"""Subclass this function for your own needs.

Or just pass the version as part ofthe URL
(e.g. client._('/v3'))
:param url: URI portion of the fullURL being requested
:type url: string
:return: string
"""
return '{}/v{}{}'.format(self.host, url)  str(self._version),
```

```
def _build_url(self, query_params):
"""Build the final URL to be passed to   urllib
param query_params: A dictionary of all the query parameters.

:type query_params: dictionary
:return: string
"""
url = ''
count = 0
while count < len(self._url_path):
url += '/{}'.format(self._url_path[count])
count += 1

# add slash
if self.append_slash:
url += '/'

if query_params:
url_values = urlencode(sorted(query_params.items()),
url = '{}?{}'.format(url, url_values)

if self._version:
url = self._build_versioned_url(url)
else:
url = '{}{}'.format(self.host, url)
return url

def _update_headers(self, request_headers):
"""Update the headers for the request

:param request_headers: headers to set for the API call

     :type request_headers: dictionary
     :return: dictionary
     """
     self.request_headers.update(request_headers) 146
     def _build_client(self, name=None):

     """Make a new Client object

     :param name: Name of the url segment
     :type name: string
     :return: A Client object
     """
     url_path = self._url_path + [name] if name else
self._url_path
```

```
     return Client(host=self.host,
     version=self._version,
     request_headers=self.request_headers,
     url_path=url_path,
     append_slash=self.append_slash,
     timeout=self.timeout) 161
     def _make_request(self, opener, request,
timeout=None):
     """Make the API call and return the response.   is
This separated into    testing.
     it's own function, so we      can mock it easily for

     :param opener:

     :type opener:
     :param request: url payload to request

     :type request: urllib.Request object

     :param timeout: timeout value or None

     :type timeout: float

     :return: urllib response

     """

     timeout = timeout or self.timeout

     try:

     return opener.open(request, timeout=timeout)

     except HTTPError as err:

     exc = handle_error(err)

     exc. cause   = None

     _logger.debug('{method} Response: {status}

:return: string, version"""
self._version = args[0] return self._build_client()
return get_version
# We have reached the end of the method chain, make the API call
if name in self.methods:
```

```
method = name.upper()
def http_request( request_body=None, query_params=None, request_headers=None,
timeout=None,
**_):
"""Make the API call
:param timeout: HTTP request timeout. Will be propagated to
urllib client
:type timeout: float
:param request_headers: HTTP headers. Will be

current client object state
:type request_headers: dict
:param query_params: HTTP query parameters
:type query_params: dict
:param request_body: HTTP request body
:type request_body: string or json-serializable

object
:param kwargs:
:return: Response object
"""
if request_headers:

timeout=timeout)
     )


     _logger.debug('{method} Response: {status}

{body}'.format(

method=method,
status=response.status_code,
body=response.body))

return response

 return http_request 288
else;
# Add a segment to the URL
return self._(name)

def getstate (self):
return self. dict
def setstate (self, state)
```