SENDGRID INTEGRATION WITH PYTHON

Team ID	PNT2022TMID47409
Project Name	CUSTOMER CARE REGISTRY

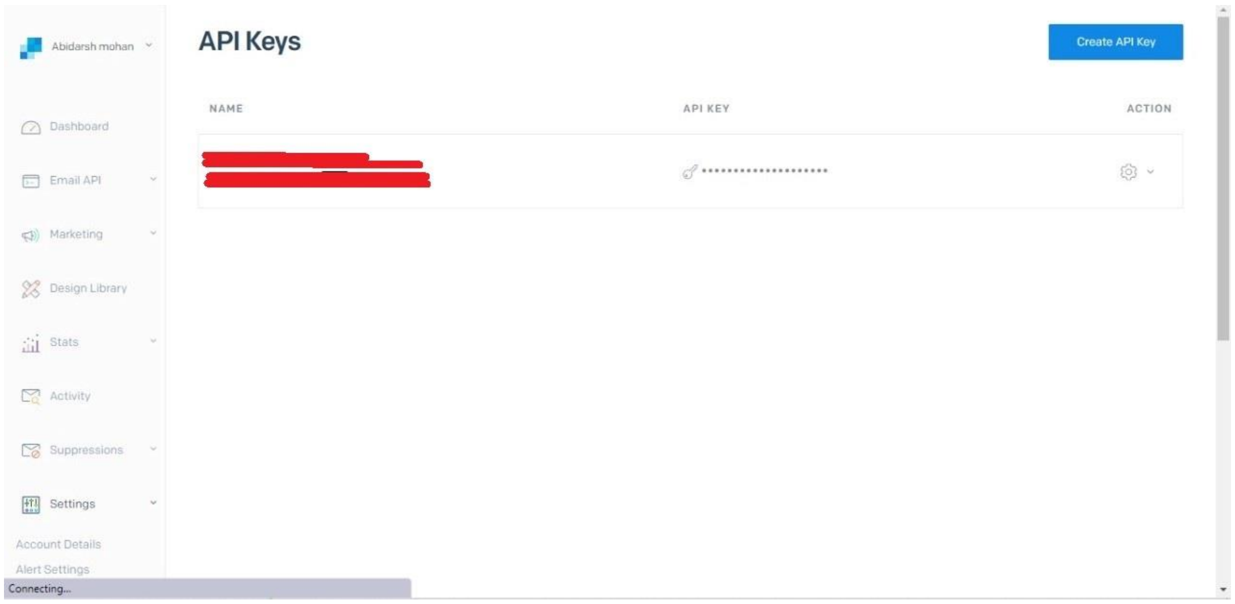
STEP 1:

REQUIREMENTS:

Python 2.6, 2.7, 3.4 or 3.5.

STEP 2:

Create an API key

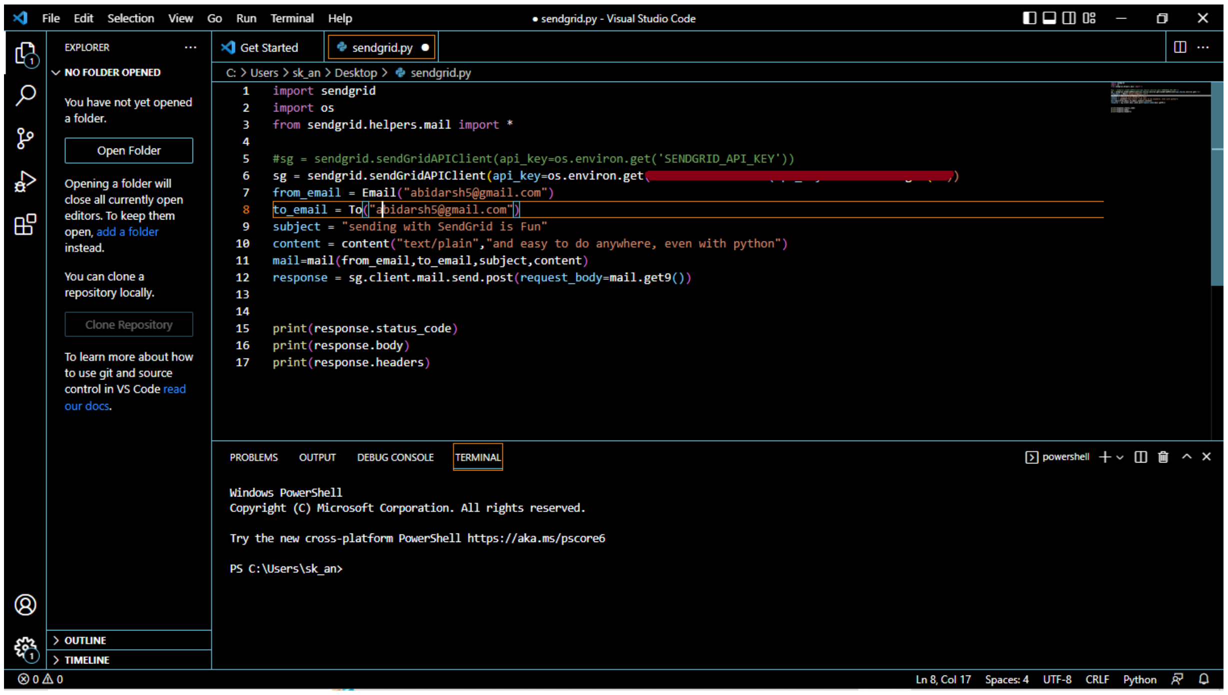


[redacted] ••••••••••••••••••••

STEP3: INSTALLPACKAGE:> pip install SendGrid

STEP 4:

SEND EMAIL



```python
import sendgrid
import os
from sendgrid.helpers.mail import *

#sg = sendgrid.sendGridAPIClient(api_key=os.environ.get('SENDGRID_API_KEY'))
sg = sendgrid.sendGridAPIClient(api_key=os.environ.get[redacted])
from_email = Email("abidarsh5@gmail.com")
to_email = To("abidarsh5@gmail.com")
subject = "sending with SendGrid is Fun"
content = content("text/plain","and easy to do anywhere, even with python")
mail=mail(from_email,to_email,subject,content)
response = sg.client.mail.send.post(request_body=mail.get9())


print(response.status_code)
print(response.body)
print(response.headers)
```

```
Windows PowerShell
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Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\sk_an>
```

File Edit Selection View Go Run Terminal Help
• sendgrid.py - Visual Studio Code
EXPLORER
NO FOLDER OPENED
You have not yet opened a folder.
Open Folder
Opening a folder will close all currently open editors. To keep them open, add a folder instead.
You can clone a repository locally.
Clone Repository
To learn more about how to use git and source control in VS Code read our docs.
Get Started
sendgrid.py
C: > Users > sk_an > Desktop > sendgrid.py
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
powershell
OUTLINE
TIMELINE
Ln 8, Col 17 Spaces: 4 UTF-8 CRLF Python

SENDGRID PYTHON CODE:

```
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)
    print(response.headers)
    except Exception as e:
    print(e.message)
```

HTTP CLIENT PROGRAM:

```
"""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 urllib2 as urllib
    from urllib2 import HTTPError
    from urllib import urlencode

_logger = logging.getLogger( name )


  class Response(object):
  """Holds the response from an API call."""
                      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
        """
        return self._status_code

        @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."""
    # These are the supported HTTP verbs
```

```
methods = {'delete', 'get', 'patch', 'post', 'put'}

def init (self,
host,
request_headers=None,
version=None,
url_path=None,
append_slash=False,
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
```

```python
        applied on all calls
        :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 of the URL
        (e.g. client._('/v3'))
        :param url: URI portion of the full URL being requested
        :type url: string
        :return: string
        """
        return '{}/v{}{}'.format(self.host, str(self._version),
        url)

    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()), True)
        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
```

```python
        """
        self.request_headers.update(request_headers)

    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)

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

        :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}
{body}'.format(
                    method=request.get_method(),
                    status=exc.status_code,
                    body=exc.body))
                    raise exc

            def _(self, name):
            """Add variable values to the url.
            (e.g. /your/api/{variable_value}/call)
            Another example: if you have a Python reserved word, such as global,
            in your url, you must use this method.

        :param name: Name of the url segment
        :type name: string
        :return: Client object
        """
        return self._build_client(name)

            def getattr (self, name):
            """Dynamically add method calls to the url, then call a method.
            (e.g. client.name.name.method())
            You can also add a version number by using .version(<int>)

                    :param name: Name of the url segment or method call
                    :type name: string or integer if name == version
                    :return: mixed
                    """
                    if name == 'version':
```

```
def get_version(*args, **kwargs):
"""
:param args: dict of settings
:param kwargs: unused
```

```
            :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 merged into
                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:
```

```
                        self._update_headers(request_headers)

    if request_body is None:
    data = None
    else:
                                # Don't serialize to a JSON formatted str
                                # if we don't have a JSON Content-Type
                                if 'Content-Type' in self.request_headers and \
                                self.request_headers['Content-Type'] != \
                                'application/json':
                                data = request_body.encode('utf-8')
                                else:
                                self.request_headers.setdefault(
                                'Content-Type', 'application/json')
                                data = json.dumps(request_body).encode('utf-8')

                        opener = urllib.build_opener()
                        request = urllib.Request(
                        self._build_url(query_params),
                        headers=self.request_headers,
                        data=data,
                        )
                        request.get_method = lambda: method

      _logger.debug('{method} Request: {url}'.format(
      method=method,
      url=request.get_full_url()))
      if request.data:
                            _logger.debug('PAYLOAD: {data}'.format(
                            data=request.data))
                            _logger.debug('HEADERS: {headers}'.format(
                            headers=request.headers))

```

```
                    response = Response(
                    self._make_request(opener, request,
                    timeout=timeout)
                    )

                        _logger.debug('{method} Response: {status}
{body}'.format(
                        method=method,
                        status=response.status_code,
                        body=response.body))

                    return response

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

        def getstate (self):
        return self. dict

      def setstate (self, state):
```