INTEGRATING WITH SENDGRID

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Team ID	PNT2022TMID44798
Project Name	SKILL/JOB RECOMMENDED APP

SENDGRID INTEGRATION WITH PYTHON

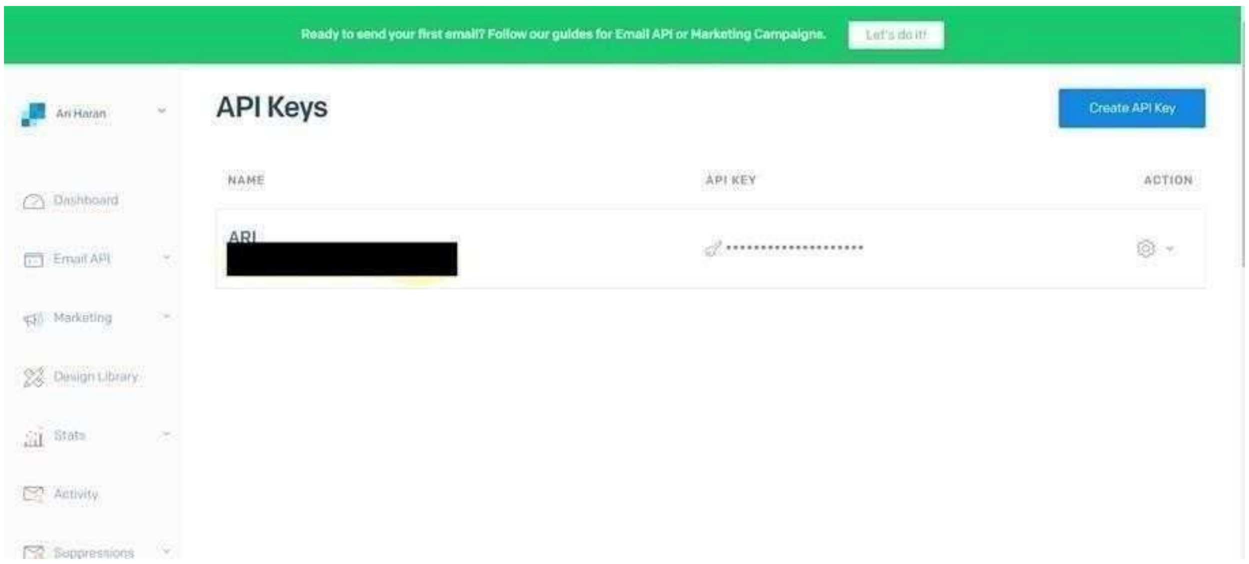
STEP 1:

Requirements:

Python 2.6, 2.7, 3.4 or 3.5.

STEP 2:

Creating an API key



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API Keys

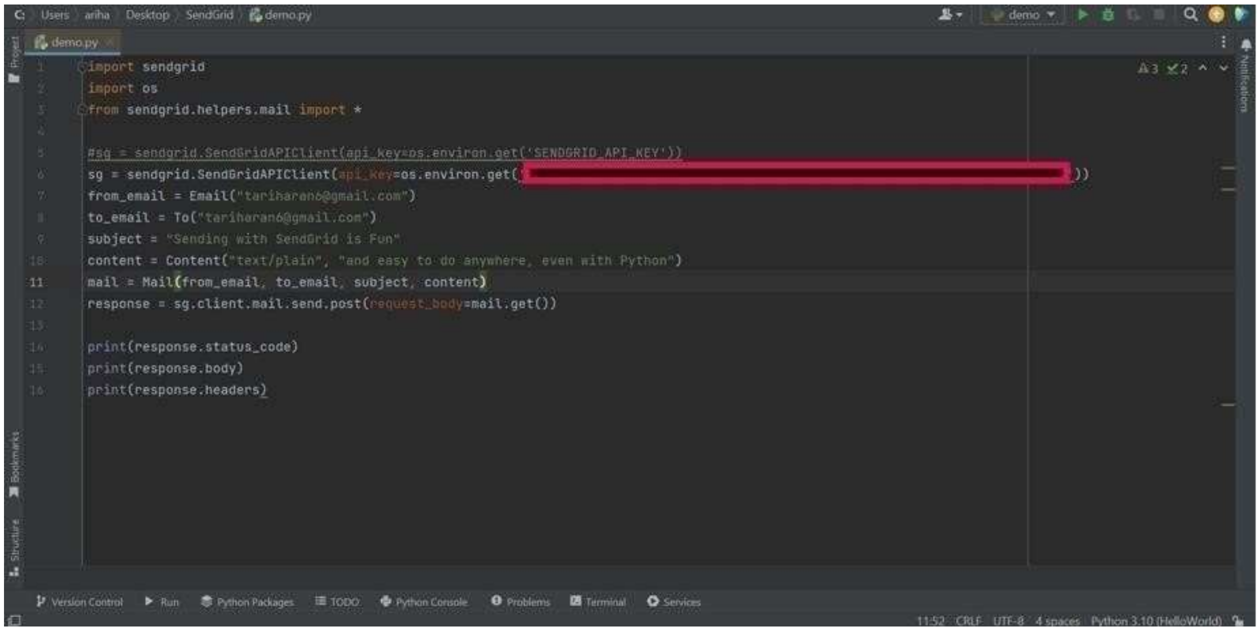
NAME	API KEY	ACTION
ARI [redacted]	••••••••••••••••••••	

STEP 3: INSTALL

PAKAGE: > pip install sendgrid

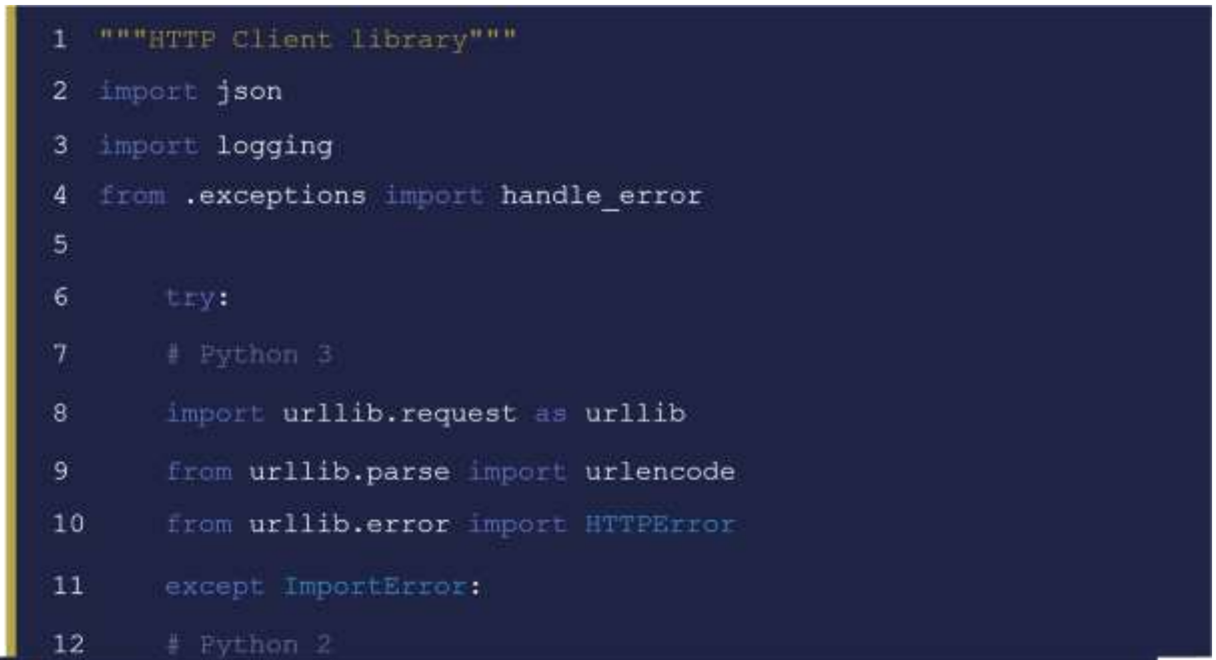
SETP 4:

SEND EMAIL

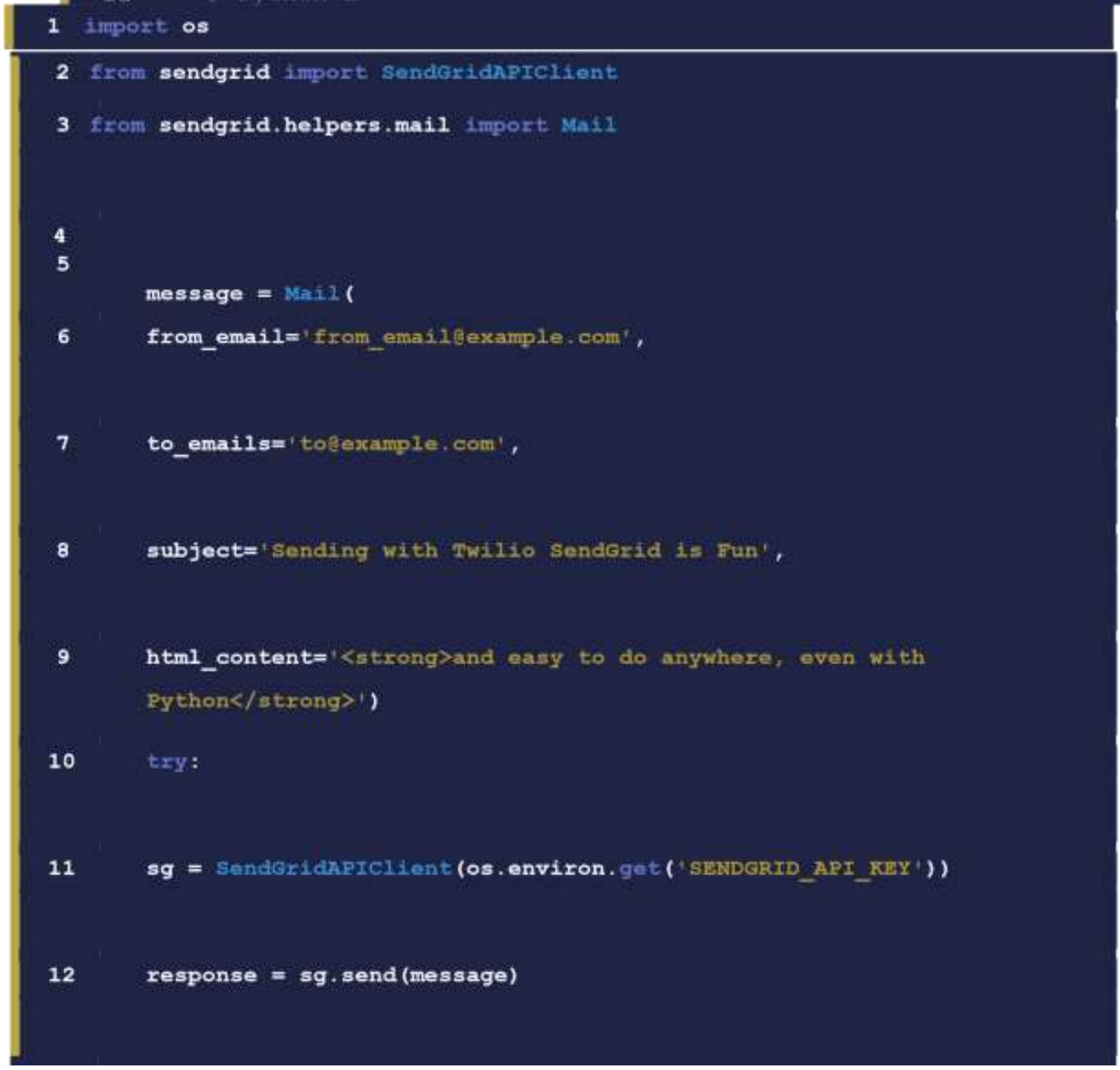


```
import sendgrid
import os
from sendgrid.helpers.mail import *

#sg = sendgrid.SendGridAPIClient(api_key=os.environ.get('SENDGRID_API_KEY'))
sg = sendgrid.SendGridAPIClient(api_key=os.environ.get([redacted]))
from_email = Email("tariharan6@gmail.com")
to_email = To("tariharan6@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.get())

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

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

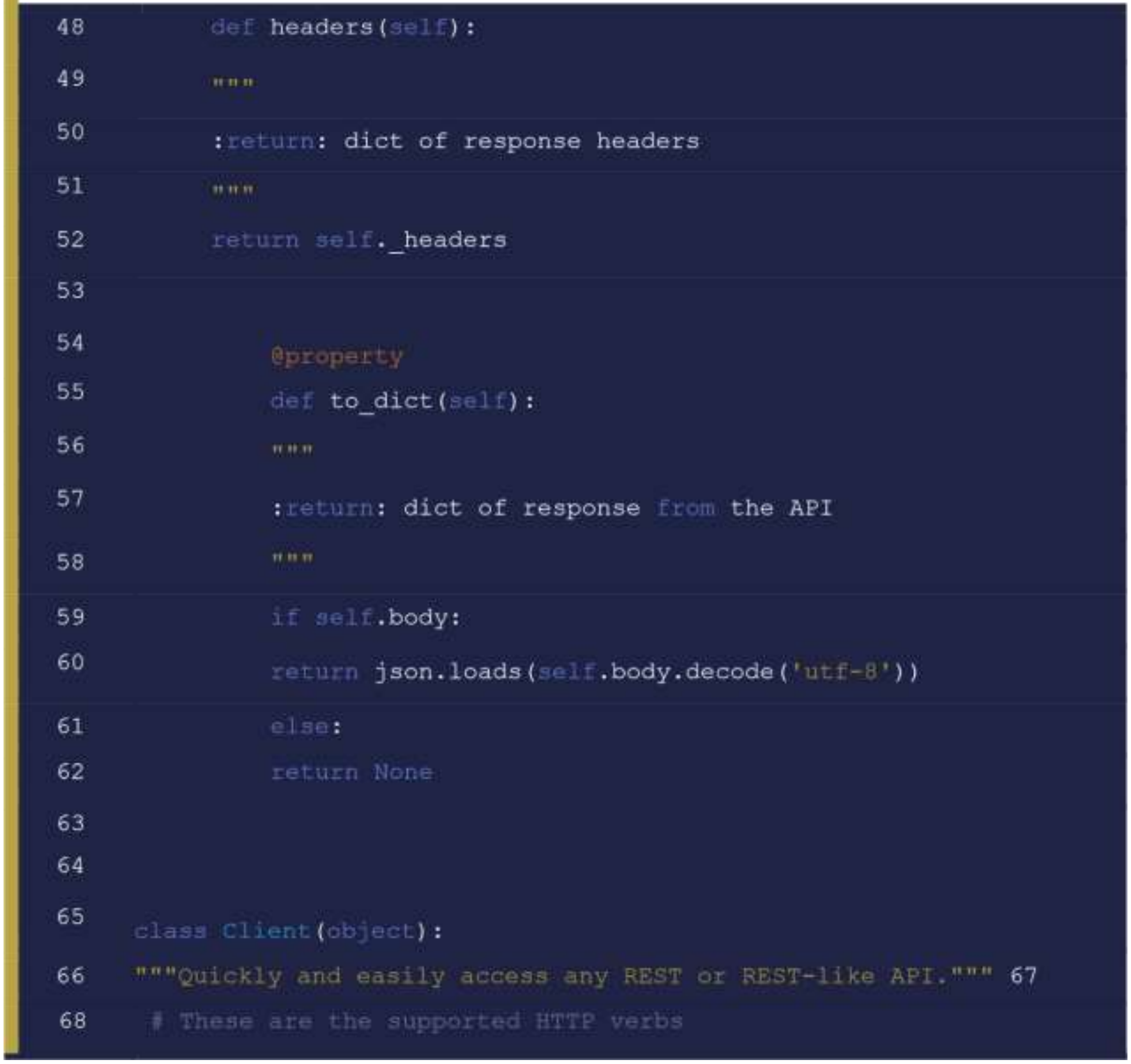
HTTP CLIENT PROGRAM:

```
import urllib2 as urllib
```

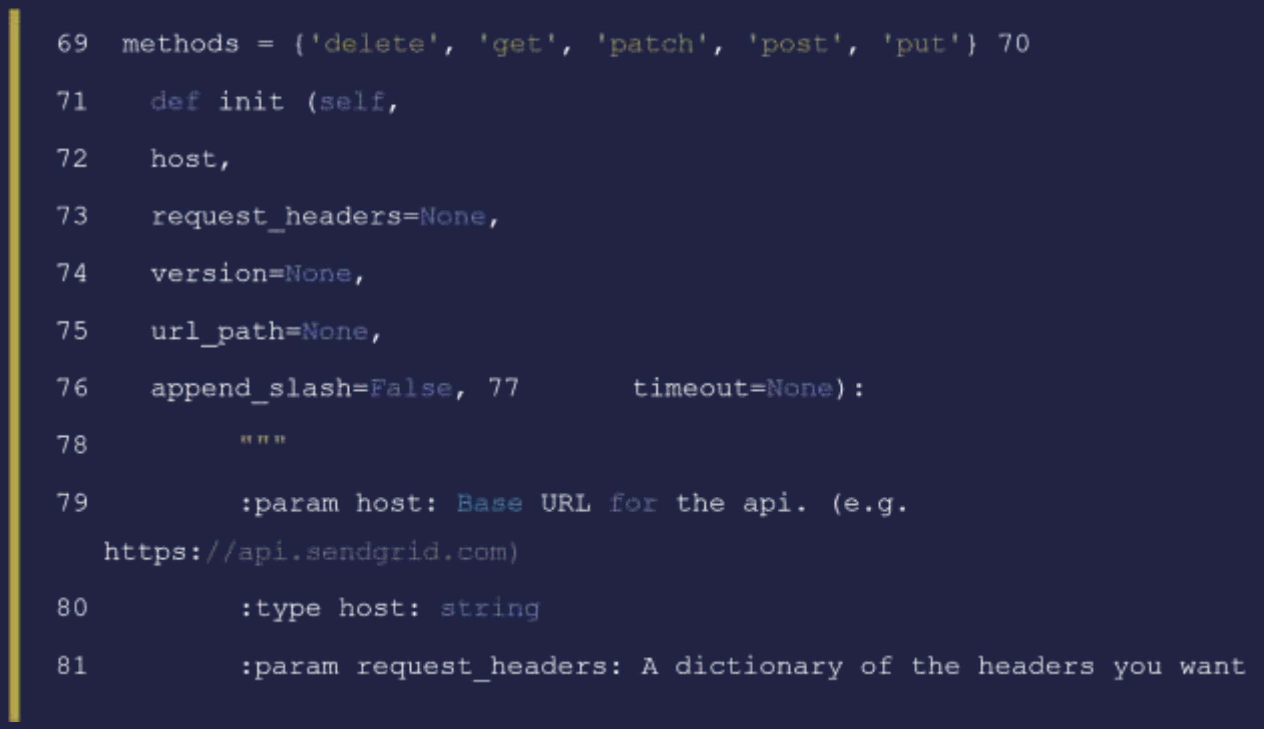
```
    from urllib2 import HTTPError
    from urllib import urlencode

_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
```

```
                                 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 []
```

```python
        # APPEND SLASH set
        self.append_slash = append_slash
        self.timeout = timeout

    def _build_versioned_url(self, url):
```

```python
        """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
```

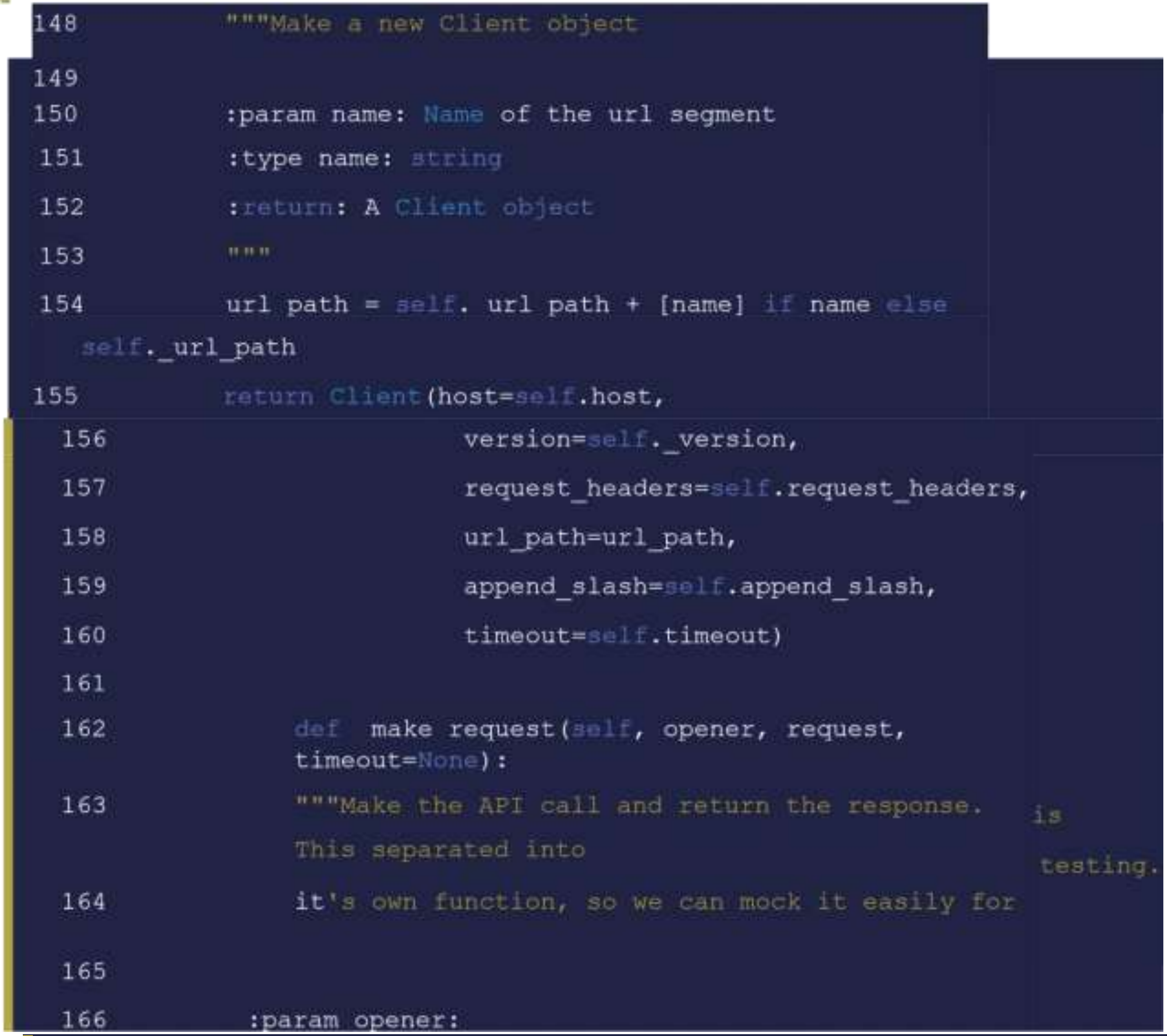
```
            """
```

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

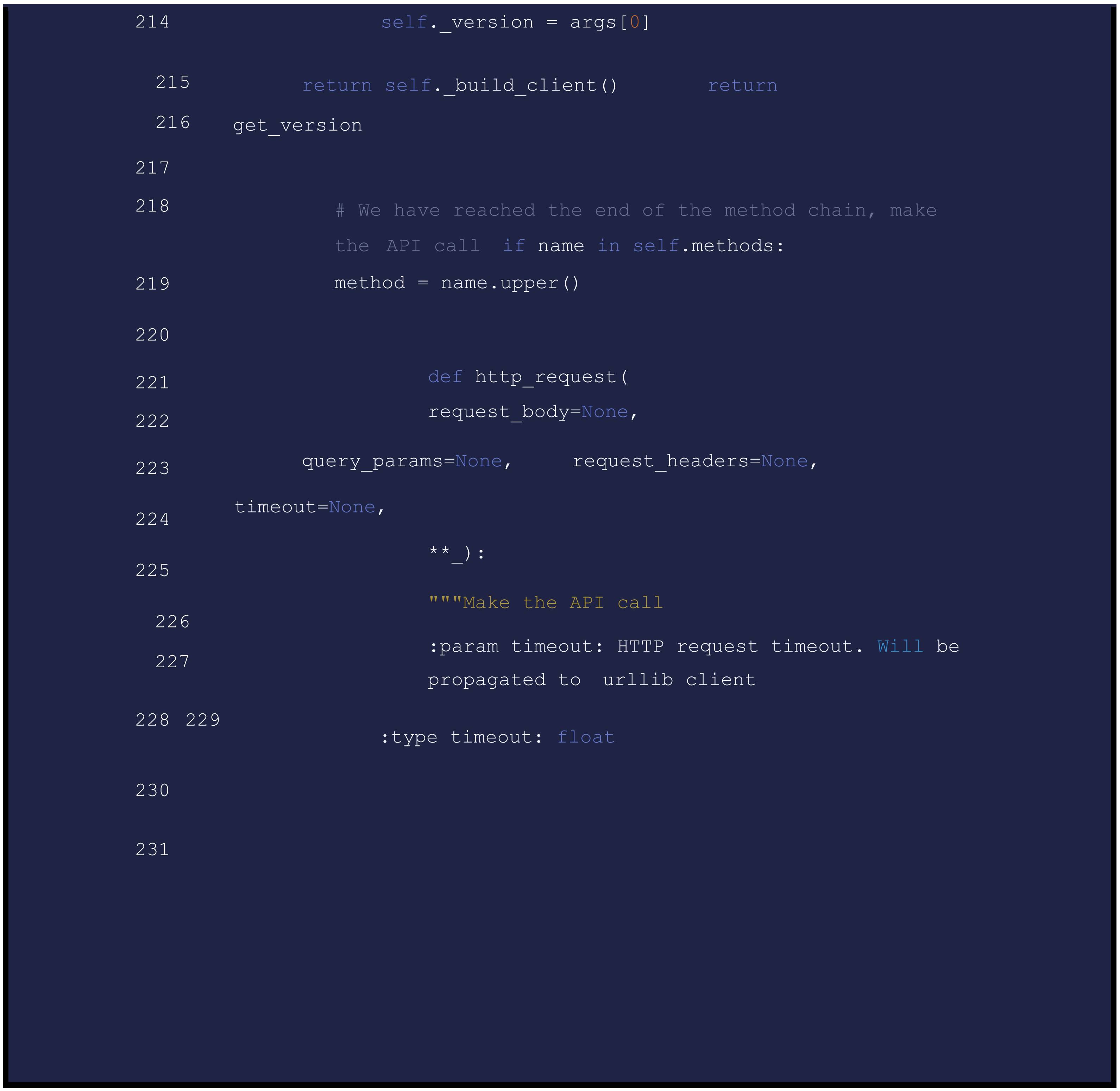
```
    def _build_client(self, name=None):

```



```
        """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}
```

```
        :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):
```