INTEGRATION SENDGRID SERVICE

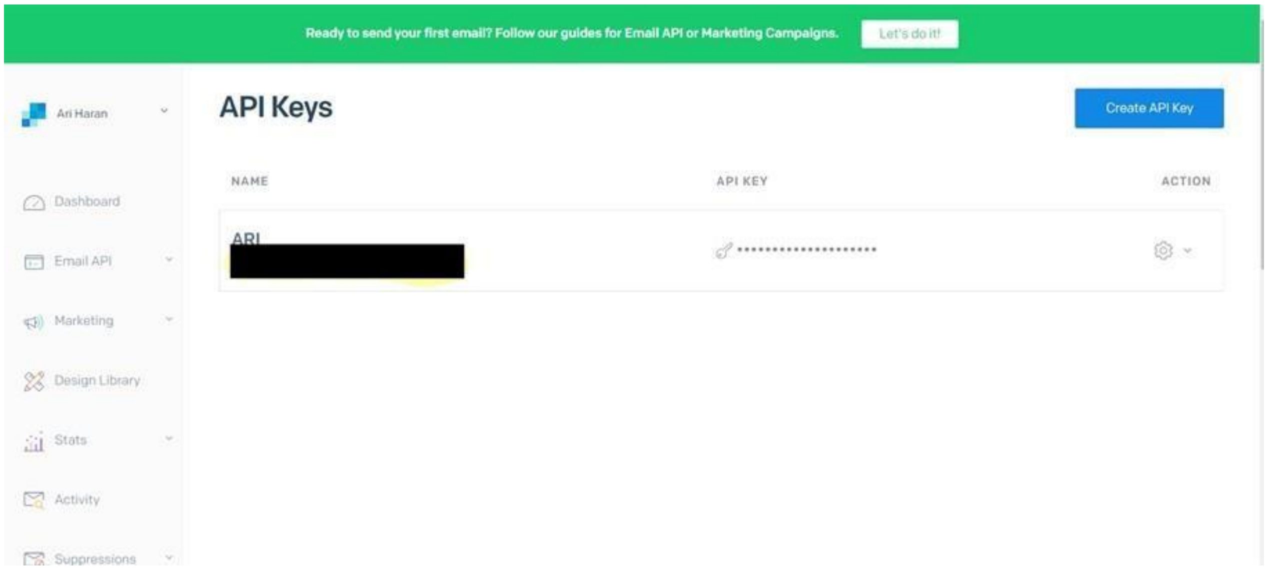
STEP 1:

REQUIREMENTS:

Python 2.6, 2.7, 3.4 or 3.5.

STEP 2:

Create an API key



API Keys

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

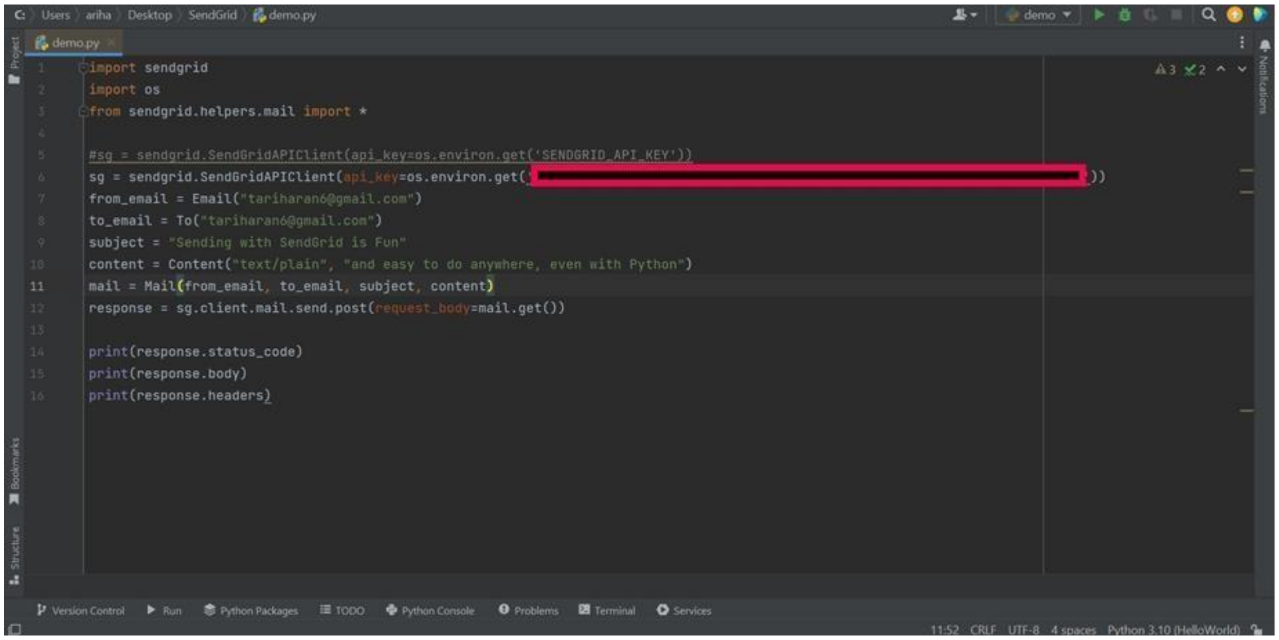
STEP 3:

INSTALL

PAKAGE: > pip install sendgrid

SETP 4:

SEND EMAIL

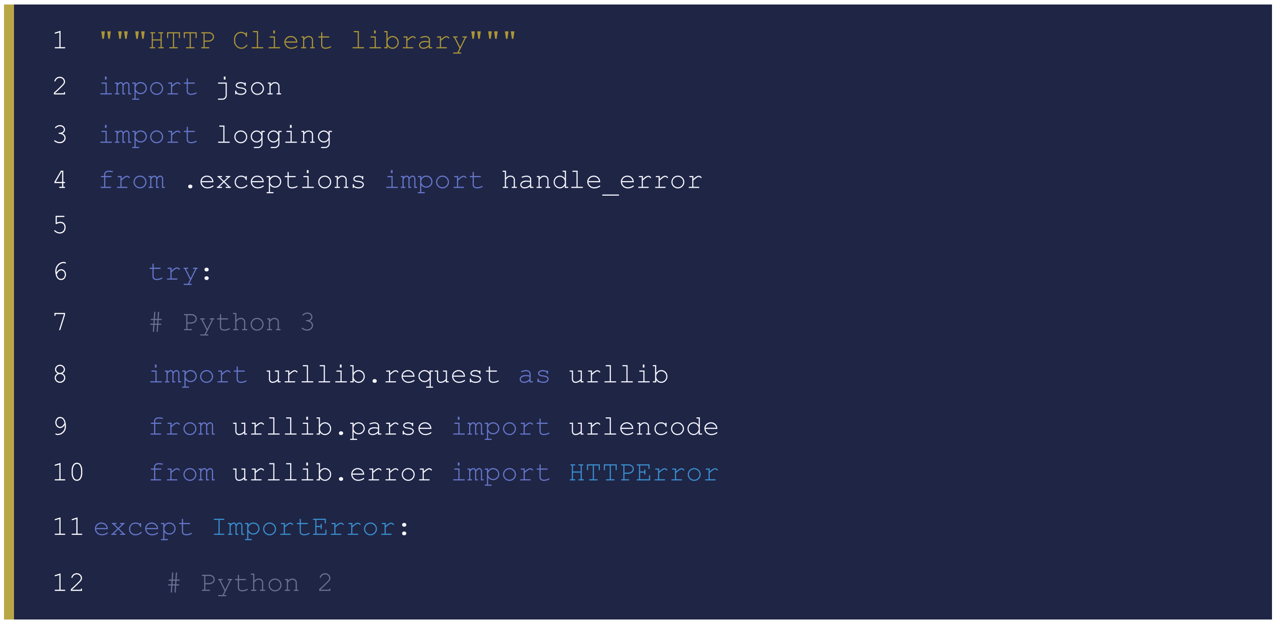


```python
import sendgrid
import os
from sendgrid.helpers.mail import *

#sg = sendgrid.SendGridAPIClient(api_key=os.environ.get('SENDGRID_API_KEY'))
sg = sendgrid.SendGridAPIClient(api_key=os.environ.get([redacted]))
from_email = Email("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 :



```python
"""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
```

```python
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
```

```python
    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 []
        # 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
    """
    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):
```