

```
import os

import json


from sendgrid import SendGridAPIClient
from sendgrid.helpers.mail import *


# NOTE: you will need move this file to the root
# directory of this project to execute properly.


def build_hello_email():

    ## Send a Single Email to a Single Recipient


    message = Mail(from_email=From('from@example.com', 'Example From Name'),
                    to_emails=To('to@example.com', 'Example To Name'),
                    subject=Subject('Sending with SendGrid is Fun'),
                    plain_text_content=PlainTextContent('and easy to do anywhere, even with Python'),
                    html_content=HtmlContent('<strong>and easy to do anywhere, even with
Python</strong>'))


    try:

        print(json.dumps(message.get(), sort_keys=True, indent=4))

        return message.get()


    except SendGridException as e:

        print(e.message)


    mock_personalization = Personalization()

    personalization_dict = get_mock_personalization_dict()
```

```

for cc_addr in personalization_dict['cc_list']:
    mock_personalization.add_to(cc_addr)

for bcc_addr in personalization_dict['bcc_list']:
    mock_personalization.add_bcc(bcc_addr)

for header in personalization_dict['headers']:
    mock_personalization.add_header(header)

for substitution in personalization_dict['substitutions']:
    mock_personalization.add_substitution(substitution)

for arg in personalization_dict['custom_args']:
    mock_personalization.add_custom_arg(arg)

mock_personalization.subject = personalization_dict['subject']
mock_personalization.send_at = personalization_dict['send_at']

message.add_personalization(mock_personalization)

return message

def get_mock_personalization_dict():
    """Get a dict of personalization mock."""
    mock_pers = dict()

    mock_pers['to_list'] = [To("test1@example.com",
                               "Example User"),
                           To("test2@example.com",
                               "Example User")]

```

```
mock_pers['cc_list'] = [To("test3@example.com",
    "Example User"),
    To("test4@example.com",
    "Example User")]
```

```
mock_pers['bcc_list'] = [To("test5@example.com"),
    To("test6@example.com")]
```

```
mock_pers['subject'] = ("Hello World from the Personalized "
    "SendGrid Python Library")
```

```
mock_pers['headers'] = [Header("X-Test", "test"),
    Header("X-Mock", "true")]
```

```
mock_pers['substitutions'] = [Substitution("%name%", "Example User"),
    Substitution("%city%", "Denver")]
```

```
mock_pers['custom_args'] = [CustomArg("user_id", "343"),
    CustomArg("type", "marketing")]
```

```
mock_pers['send_at'] = 1443636843
return mock_pers
```

```
def build_multiple_emails_personalized():
```

```
    # Note that the domain for all From email addresses must match
```

```
    message = Mail(from_email=From('from@example.com', 'Example From Name'),
        subject=Subject('Sending with SendGrid is Fun'),
        plain_text_content=PlainTextContent('and easy to do anywhere, even with Python'),
        html_content=HtmlContent('<strong>and easy to do anywhere, even with
Python</strong>'))
```

```
mock_personalization = Personalization()
mock_personalization.add_to(To('test@example.com', 'Example User 1'))
mock_personalization.add_cc(Cc('test1@example.com', 'Example User 2'))
message.add_personalization(mock_personalization)
```

```
mock_personalization_2 = Personalization()
mock_personalization_2.add_to(To('test2@example.com', 'Example User 3'))
mock_personalization_2.set_from(From('from@example.com', 'Example From Name 2'))
mock_personalization_2.add_bcc(Bcc('test3@example.com', 'Example User 4'))
message.add_personalization(mock_personalization_2)
```

```
try:
    print(json.dumps(message.get(), sort_keys=True, indent=4))
    return message.get()
```

```
except SendGridException as e:
    print(e.message)
```

```
return message
```

```
def build_attachment1():
```

```
    """Build attachment mock. Make sure your content is base64 encoded before passing into
    attachment.content.
```

```
    Another example: https://github.com/sendgrid/sendgrid-
    python/blob/HEAD/use\_cases/attachment.md"""
```

```
    attachment = Attachment()
    attachment.file_content = ("TG9yZW0gaXBzdW0gZG9sb3Igc2l0IGFtZXQsIGNvb3IgdW80IGYyIGUgY29udGVudC54bWw6\n"
                               "Y3RldHVyIGFkaXBpc2NpbmcgZWxpdC4gQ3JhcyBwdW12")
    attachment.file_type = "application/pdf"
    attachment.file_name = "balance_001.pdf"
```

```
attachment.disposition = "attachment"

attachment.content_id = "Balance Sheet"

return attachment
```

```
def build_attachment2():

    """Build attachment mock."""

    attachment = Attachment()

    attachment.file_content = "BwdW"

    attachment.file_type = "image/png"

    attachment.file_name = "banner.png"

    attachment.disposition = "inline"

    attachment.content_id = "Banner"

    return attachment
```

```
def build_kitchen_sink():

    """All settings set"""

    from sendgrid.helpers.mail import (

        Mail, From, To, Cc, Bcc, Subject, PlainTextContent,

        HtmlContent, SendGridException, Substitution,

        Header, CustomArg, SendAt, Content, MimeType, Attachment,

        FileName, FileContent, FileType, Disposition, ContentId,

        TemplateId, Section, ReplyTo, Category, BatchId, Asm,

        GroupId, GroupsToDisplay, IpPoolName, MailSettings,

        BccSettings, BccSettingsEmail, BypassListManagement,

        FooterSettings, FooterText, FooterHtml, SandBoxMode,

        SpamCheck, SpamThreshold, SpamUrl, TrackingSettings,

        ClickTracking, SubscriptionTracking, SubscriptionText,

        SubscriptionHtml, SubscriptionSubstitutionTag,

        OpenTracking, OpenTrackingSubstitutionTag, Ganalytics,

        UtmSource, UtmMedium, UtmTerm, UtmContent, UtmCampaign)
```

```
import time
```

```
import datetime
```

```
message = Mail()
```

```
# Define Personalizations
```

```
message.to = To('test1@sendgrid.com', 'Example User1', p=0)
```

```
message.to = [
```

```
    To('test2@sendgrid.com', 'Example User2', p=0),
```

```
    To('test3@sendgrid.com', 'Example User3', p=0)
```

```
]
```

```
message.cc = Cc('test4@example.com', 'Example User4', p=0)
```

```
message.cc = [
```

```
    Cc('test5@example.com', 'Example User5', p=0),
```

```
    Cc('test6@example.com', 'Example User6', p=0)
```

```
]
```

```
message.bcc = Bcc('test7@example.com', 'Example User7', p=0)
```

```
message.bcc = [
```

```
    Bcc('test8@example.com', 'Example User8', p=0),
```

```
    Bcc('test9@example.com', 'Example User9', p=0)
```

```
]
```

```
message.subject = Subject('Sending with SendGrid is Fun 0', p=0)
```

```
message.header = Header('X-Test1', 'Test1', p=0)
```

```
message.header = Header('X-Test2', 'Test2', p=0)
```

```
message.header = [
```

```
    Header('X-Test3', 'Test3', p=0),
```

```
Header('X-Test4', 'Test4', p=0)
]

message.substitution = Substitution('%name1%', 'Example Name 1', p=0)
message.substitution = Substitution('%city1%', 'Example City 1', p=0)
message.substitution = [
    Substitution('%name2%', 'Example Name 2', p=0),
    Substitution('%city2%', 'Example City 2', p=0)
]

message.custom_arg = CustomArg('marketing1', 'true', p=0)
message.custom_arg = CustomArg('transactional1', 'false', p=0)
message.custom_arg = [
    CustomArg('marketing2', 'false', p=0),
    CustomArg('transactional2', 'true', p=0)
]

message.send_at = SendAt(1461775051, p=0)

message.to = To('test10@example.com', 'Example User10', p=1)
message.to = [
    To('test11@example.com', 'Example User11', p=1),
    To('test12@example.com', 'Example User12', p=1)
]

message.cc = Cc('test13@example.com', 'Example User13', p=1)
message.cc = [
    Cc('test14@example.com', 'Example User14', p=1),
    Cc('test15@example.com', 'Example User15', p=1)
]
```

```
message.bcc = Bcc('test16@example.com', 'Example User16', p=1)
message.bcc = [
    Bcc('test17@example.com', 'Example User17', p=1),
    Bcc('test18@example.com', 'Example User18', p=1)
]
```

```
message.header = Header('X-Test5', 'Test5', p=1)
message.header = Header('X-Test6', 'Test6', p=1)
message.header = [
    Header('X-Test7', 'Test7', p=1),
    Header('X-Test8', 'Test8', p=1)
]
```

```
message.substitution = Substitution('%name3%', 'Example Name 3', p=1)
message.substitution = Substitution('%city3%', 'Example City 3', p=1)
message.substitution = [
    Substitution('%name4%', 'Example Name 4', p=1),
    Substitution('%city4%', 'Example City 4', p=1)
]
```

```
message.custom_arg = CustomArg('marketing3', 'true', p=1)
message.custom_arg = CustomArg('transactional3', 'false', p=1)
message.custom_arg = [
    CustomArg('marketing4', 'false', p=1),
    CustomArg('transactional4', 'true', p=1)
]
```

```
message.send_at = SendAt(1461775052, p=1)
```

```
message.subject = Subject('Sending with SendGrid is Fun 1', p=1)
```



# The values below this comment are global to entire message

```
message.from_email = From('help@twilio.com', 'Twilio SendGrid')
```

```
message.reply_to = ReplyTo('help_reply@twilio.com', 'Twilio SendGrid Reply')
```

```
message.subject = Subject('Sending with SendGrid is Fun 2')
```

```
message.content = Content(MimeType.text, 'and easy to do anywhere, even with Python')
```

```
message.content = Content(MimeType.html, '<strong>and easy to do anywhere, even with  
Python</strong>')
```

```
message.content = [  
    Content('text/calendar', 'Party Time!!'),  
    Content('text/custom', 'Party Time 2!!')  
]
```

```
message.attachment = Attachment(FileContent('base64 encoded content 1'),  
                                FileName('balance_001.pdf'),  
                                FileType('application/pdf'),  
                                Disposition('attachment'),  
                                ContentId('Content ID 1'))
```

```
message.attachment = [  
    Attachment(FileContent('base64 encoded content 2'),  
                FileName('banner.png'),  
                FileType('image/png'),  
                Disposition('inline'),  
                ContentId('Content ID 2')),  
    Attachment(FileContent('base64 encoded content 3'),  
                FileName('banner2.png'),  
                FileType('image/png'),  
                Disposition('inline'),
```

```
        ContentId('Content ID 3'))
    ]

    message.template_id = TemplateId('13b8f94f-bcae-4ec6-b752-70d6cb59f932')

    message.section = Section('%section1%', 'Substitution for Section 1 Tag')
    message.section = [
        Section('%section2%', 'Substitution for Section 2 Tag'),
        Section('%section3%', 'Substitution for Section 3 Tag')
    ]

    message.header = Header('X-Test9', 'Test9')
    message.header = Header('X-Test10', 'Test10')
    message.header = [
        Header('X-Test11', 'Test11'),
        Header('X-Test12', 'Test12')
    ]

    message.category = Category('Category 1')
    message.category = Category('Category 2')
    message.category = [
        Category('Category 1'),
        Category('Category 2')
    ]

    message.custom_arg = CustomArg('marketing5', 'false')
    message.custom_arg = CustomArg('transactional5', 'true')
    message.custom_arg = [
        CustomArg('marketing6', 'true'),
        CustomArg('transactional6', 'false')
    ]
```

```
message.send_at = SendAt(1461775053)
```

```
message.batch_id = BatchId("HkJ5yLYULb7Rj8GKSx7u025ouWVIMgAi")
```

```
message.asm = Asm(GroupId(1), GroupsToDisplay([1,2,3,4]))
```

```
message.ip_pool_name = IpPoolName("IP Pool Name")
```

```
mail_settings = MailSettings()
```

```
mail_settings.bcc_settings = BccSettings(False, BccSettingsTo("bcc@twilio.com"))
```

```
mail_settings.bypass_list_management = BypassListManagement(False)
```

```
mail_settings.footer_settings = FooterSettings(True, FooterText("w00t"),  
FooterHtml("<string>w00t!<strong>"))
```

```
mail_settings.sandbox_mode = SandBoxMode(True)
```

```
mail_settings.spam_check = SpamCheck(True, SpamThreshold(5),  
SpamUrl("https://example.com"))
```

```
message.mail_settings = mail_settings
```

```
tracking_settings = TrackingSettings()
```

```
tracking_settings.click_tracking = ClickTracking(True, False)
```

```
tracking_settings.open_tracking = OpenTracking(True,  
OpenTrackingSubstitutionTag("open_tracking"))
```

```
tracking_settings.subscription_tracking = SubscriptionTracking(  
    True,
```

```
    SubscriptionText("Goodbye"),
```

```
    SubscriptionHtml("<strong>Goodbye!</strong>"),
```

```
    SubscriptionSubstitutionTag("unsubscribe"))
```

```
tracking_settings.ganalytics = Ganalytics(  
    True,
```

```
    UtmSource("utm_source"),
```

```
    UtmMedium("utm_medium"),
```

```
    UtmSource("utm_source"),
```

```
    UtmMedium("utm_medium"),
```

```
    UtmTerm("utm_term"),
    UtmContent("utm_content"),
    UtmCampaign("utm_campaign"))
message.tracking_settings = tracking_settings
```

```
return message
```

```
def send_multiple_emails_personalized():
```

```
    # Assumes you set your environment variable:
```

```
    # https://github.com/sendgrid/sendgrid-  
python/blob/HEAD/TROUBLESHOOTING.md#environment-variables-and-your-sendgrid-api-key
```

```
    message = build_multiple_emails_personalized()
```

```
    sendgrid_client = SendGridAPIClient(os.environ.get('SENDGRID_API_KEY'))
```

```
    response = sendgrid_client.send(message=message)
```

```
    print(response.status_code)
```

```
    print(response.body)
```

```
    print(response.headers)
```

```
def send_hello_email():
```

```
    # Assumes you set your environment variable:
```

```
    # https://github.com/sendgrid/sendgrid-  
python/blob/HEAD/TROUBLESHOOTING.md#environment-variables-and-your-sendgrid-api-key
```

```
    message = build_hello_email()
```

```
    sendgrid_client = SendGridAPIClient(os.environ.get('SENDGRID_API_KEY'))
```

```
    response = sendgrid_client.send(message=message)
```

```
    print(response.status_code)
```

```
    print(response.body)
```

```
    print(response.headers)
```

```
def send_kitchen_sink():
```

```
    # Assumes you set your environment variable:
```

```
# https://github.com/sendgrid/sendgrid-  
python/blob/HEAD/TROUBLESHOOTING.md#environment-variables-and-your-sendgrid-api-key
```

```
message = build_kitchen_sink()
```

```
sendgrid_client = SendGridAPIClient(os.environ.get('SENDGRID_API_KEY'))
```

```
response = sendgrid_client.send(message=message)
```

```
print(response.status_code)
```

```
print(response.body)
```

```
print(response.headers)
```