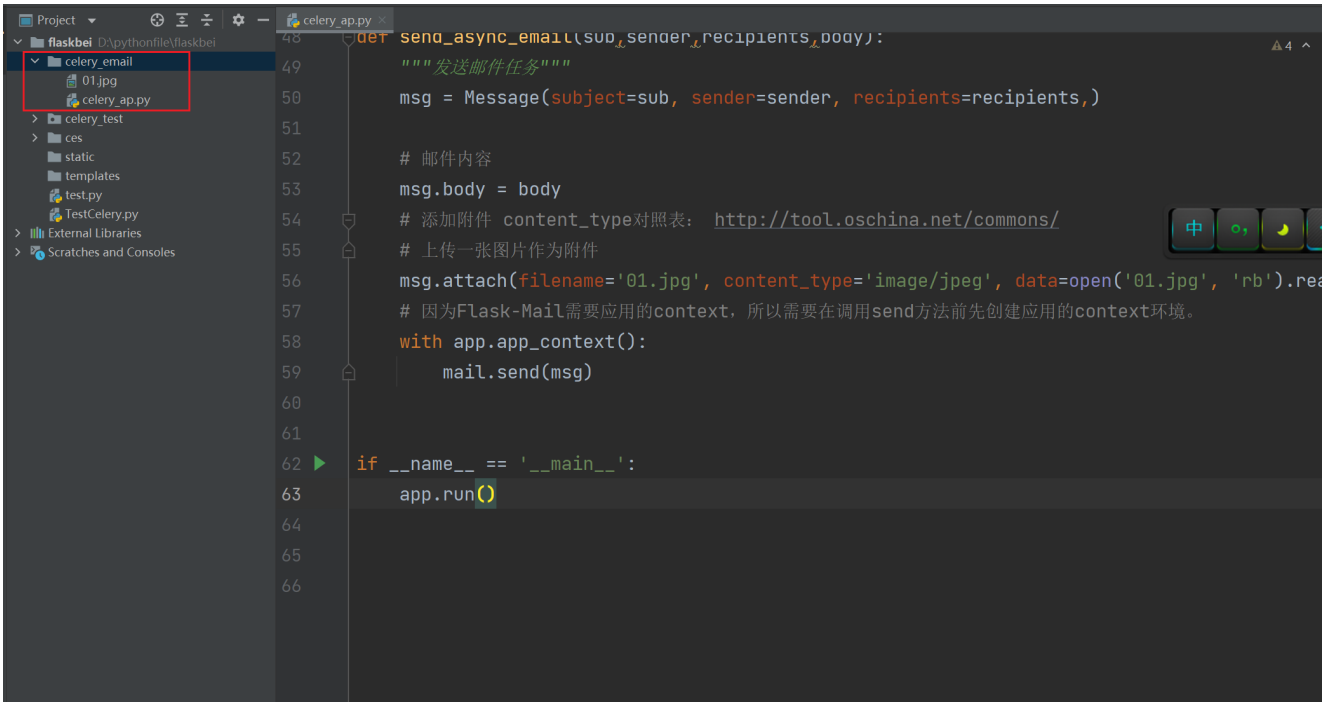
```
# -*- encoding: utf-8 -*-
from flask import Flask
from celery import Celery
from flask_mail import Mail, Message

app = Flask(__name__)  # type:Flask


app.config['CELERY_BROKER_URL'] = 'redis://127.0.0.1:6379/0'
app.config['CELERY_RESULT_BACKEND'] =
'redis://127.0.0.1:6379/1'

# 创建celery实例
celery_app = Celery(
    app.name,
    broker=app.config['CELERY_BROKER_URL'],
    backend=app.config['CELERY_RESULT_BACKEND']
)


# 配置 发送邮箱
app.config.update(
    DEBUG=True,
    MAIL_SERVER='smtp.163.com',  # 服务器地址
    MAIL_PROT=25,  # 邮件服务器端口
    MAIL_USE_TLS=True,  # 使用tls 安全协议
    MAIL_USERNAME='denhu2908588789@163.com',  # 发送邮件邮箱--
你的
    MAIL_PASSWORD='',  # 密码 --- 授权码
)
# 为Celery同步Flask上的配置
celery_app.conf.update(app.config)

mail = Mail(app)


@app.route('/')
def hello_world():
```

```
    # 调用任务，将任务加入任务队列
    send_async_email.delay(
        '来自flask',
        app.config['MAIL_USERNAME'],
        ['denhu2908588789@163.com'],
        'celery 异步发送邮件'
    )
    return 'Hello World!'


@celery_app.task
def send_async_email(sub,sender,recipients,body):
    """发送邮件任务"""
    msg = Message(subject=sub, sender=sender,
recipients=recipients,)

    # 邮件内容
    msg.body = body
    # 添加附件 content_type对照表：
http://tool.oschina.net/commons/
    # 上传一张图片作为附件
    msg.attach(filename='01.jpg', content_type='image/jpeg',
data=open('01.jpg', 'rb').read())
    # 因为Flask-Mail需要应用的context，所以需要在调用send方法前先
创建应用的context环境。
    with app.app_context():
        mail.send(msg)


if __name__ == '__main__':
    app.run()
```

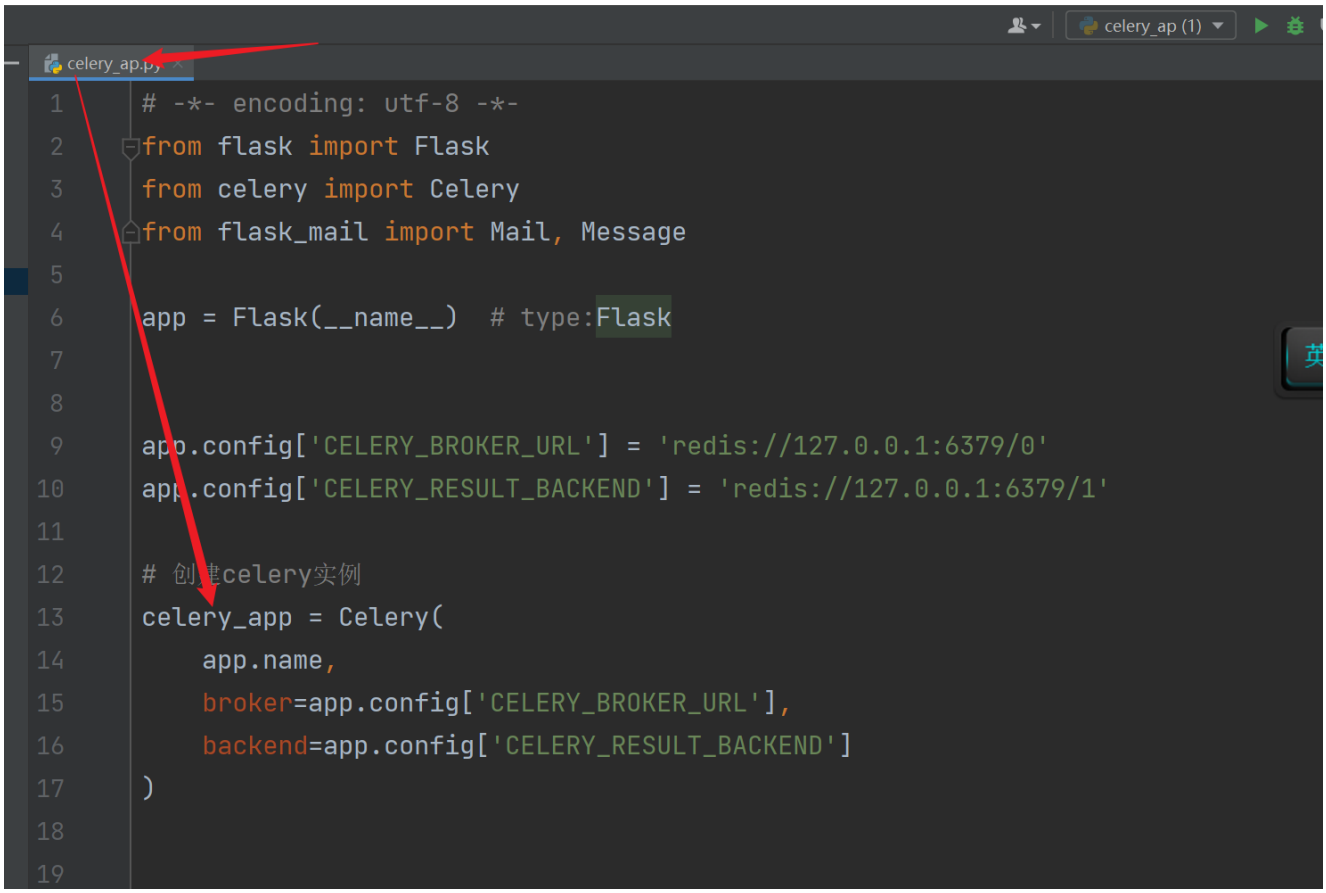


==**启动命令**==

```
celery -A celery_ap.celery_app worker -l info --pool=solo
```

这里注意一点：celery_ap.celery_app指的是celery_ap文件中的celery实例对象

如果在结合flask操作启动中未指明，那么便会出现非常经典的
AttributeError: 'Flask' object has no attribute 'user_options'



启动效果

```
(flask_bei) D:\pythonfile\flaskbei\celery_email>celery -A celery_ap.celery_app worker -l info --pool=solo

 -------------- celery@LAPTOP-QC5E15HN v5.2.7 (dawn-chorus)
--- ***** -----
-- ******* ---- Windows-10-10.0.19041-SP0 2022-10-29 13:47:43
- *** --- * ---
- ** ---------- [config]
- ** ---------- .> app:         celery_ap:0x1a62fad6708
- ** ---------- .> transport:   redis://127.0.0.1:6379/0
- ** ---------- .> results:     redis://127.0.0.1:6379/1
- *** --- * --- .> concurrency: 8 (solo)
-- ******* ---- .> task events: OFF (enable -E to monitor tasks in this worker)
--- ***** -----
 -------------- [queues]
                .> celery           exchange=celery(direct) key=celery


[tasks]
  . celery_ap.send_async_email

[2022-10-29 13:47:43,327: WARNING/MainProcess] D:\EVNS\flask_bei\lib\site-packages\celery\app\utils.py:206: CDeprecati
onWarning:
    The 'CELERY_RESULT_BACKEND' setting is deprecated and scheduled for removal in
    version 6.0.0. Use the result_backend instead

  alternative=f'Use the {_TO_NEW_KEY[setting]} instead')

[2022-10-29 13:47:43,328: WARNING/MainProcess] Please run `celery upgrade settings path/to/settings.py` to avoid these
 warnings and to allow a smoother upgrade to Celery 6.0.
[2022-10-29 13:47:43,335: INFO/MainProcess] Connected to redis://127.0.0.1:6379/0
[2022-10-29 13:47:43,339: INFO/MainProcess] mingle: searching for neighbors
[2022-10-29 13:47:44,355: INFO/MainProcess] mingle: all alone
[2022-10-29 13:47:44,363: INFO/MainProcess] celery@LAPTOP-QC5E15HN ready.
[2022-10-29 13:47:50,150: INFO/MainProcess] Task celery_ap.send_async_email[b3b13500-a47c-4dfa-b3db-9ea54dc69553] rece
ived
```

触发效果

```
7Ph+Ht+dgAPNyU+z4r+5\r\nIAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAABHkp9nxX9yQA4Sl\r\nKfD1nIAAAAfHZB
hPFUqjllD5JjmDvkUanRofmOMO8Ni7pG2KQM9111qf2hmvWWtvsXtuv/6gl/2e\r\ntSdyeCrt+KLYFw5Cr93eIji3HEVd36R3MoeHmJwKMxx1d3+9c0e0
33m6Z7GlXh9Rw/nVfHHevm2V\r\nUT6SO/baqebbv22I+b+34f3A9Hj8QjOXOdawjrO1MNjcXVw537eyNTWy2V48Xv8Am3S8tb0yT+ec\r\ndkVe/ddvbs
e8afJt9Dw+037f29Wx4ORPavw/Y8+n6/d+oEuSn2fFf30UpSnw9ZyAOFpSrx9RxyU+\r\nz4r+5IAR5KfZ8V/ckAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAA\r\nAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA\r\nAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA\r\nAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA\r\nAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA\r\nAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA\r\nAAAAAAAAAAAAAAAAAAAAAAAAf//Z\r\n\r\n--==
=============7979305965224020608==--\r\n.\r\n'
[2022-10-29 13:47:53,413: WARNING/MainProcess] reply:
[2022-10-29 13:47:53,413: WARNING/MainProcess]
[2022-10-29 13:47:53,415: WARNING/MainProcess] b'250 Mail OK queued as smtp9,DcCowACnZtaFvlxjuHf9HQ--.1
71\r\n'
[2022-10-29 13:47:53,421: WARNING/MainProcess] reply: retcode (250); Msg: b'Mail OK queued as smtp9,DcCowACnZtaFvlxjuH
f9HQ--.16583S3 1667022471'
[2022-10-29 13:47:53,422: WARNING/MainProcess] data:
[2022-10-29 13:47:53,422: WARNING/MainProcess]
[2022-10-29 13:47:53,423: WARNING/MainProcess] (250, b'Mail OK queued as smtp9,DcCowACnZtaFvlxjuHf9HQ--.16583S3 166702
2471')
[2022-10-29 13:47:53,424: WARNING/MainProcess] send:
[2022-10-29 13:47:53,424: WARNING/MainProcess]
[2022-10-29 13:47:53,424: WARNING/MainProcess] 'quit\r\n'
[2022-10-29 13:47:53,472: WARNING/MainProcess] reply:
[2022-10-29 13:47:53,472: WARNING/MainProcess]
[2022-10-29 13:47:53,474: WARNING/MainProcess] b'221 Bye\r\n'
[2022-10-29 13:47:53,480: WARNING/MainProcess] reply: retcode (221); Msg: b'Bye'
[2022-10-29 13:47:53,483: INFO/MainProcess] Task celery_ap.send_async_email[b3b13500-a47c-4dfa-b3db-9ea54dc69553] succ
eeded in 3.32799999999952s: None
```