一、邮件编程

from email.mime.text import MIMEText #准备邮件

from email.header import Header

import smtplib #发送邮件

message = MIMEText('Python邮件测试\r\n', 'plain', 'utf8') #邮件正文

message['From'] = Header('Linus@kernel.org', 'utf8') #From邮件头

message['To'] = Header('root@localhost', 'utf8') #To邮件头

message['Subject'] = Header('Welcome', 'utf8') #标题邮件头

###创建本地邮件对象###

smtp = smtplib.SMTP('localhost')

sender = 'linus@kernel.org' #发送人

receivers = ['root@localhost', 'lisi@localhost'] #接收人[列表]

smtp.sendmail(sender, receivers, message.as\_bytes()) #发送邮件

###定义网络邮件函数###

def send\_mail(txt, subject, sender, receivers, mail\_host, passwd):

message = MIMEText(txt, 'plain', 'utf8')

message['From'] = Header(sender, 'utf8')

message['To'] = Header(receivers[0], 'utf8')

message['Subject'] = Header(subject, 'utf8')

smtp = smtplib.SMTP()

smtp.connect(mail\_host)

# smtp.starttls() #如果服务器要求安全通信，打开此注释

smtp.login(sender, passwd)

smtp.sendmail(sender, receivers, message.as\_bytes())

if \_\_name\_\_ == '\_\_main\_\_':

txt = '甘多位早晨!\r\n'

subject = '正野'

sender = '442425799@qq.com'

receivers = ['442425799@qq.com', '1146966008@qq.com']

mail\_host = 'smtp.qq.com'

passwd = 'akdbvoacvpokbiic' #QQ邮箱smtp服务器授权码

send\_mail(txt, subject, sender, receivers, mail\_host, passwd)

二、json模块

json：可以在网络中传输各种数据类型的对象

>>> import json

>>> jdata = json.dumps(alist)

#对py数据类型编码，返回str(中文会被编码)，用于网络发送

>>> json.loads(jdata)

# 将json类型进行解码，返回py类型(中文解码)，用于返回数据解码

**案例：获取天气情况**

# 实况天气获取:http://www.weather.com.cn/data/sk/城市代码.html

# 城市信息获取:http://www.weather.com.cn/data/cityinfo/城市代码.html

# 详细指数获取:http://www.weather.com.cn/data/zs/城市代码.html

# 百度搜索“中国天气网 城市代码”

from urllib import request

import json

import pprint

url = 'http://www.weather.com.cn/data/sk/101280101.html'

html = request.urlopen(url)

data = html.read()

gz\_weather = json.loads(data)

pprint.pprint(gz\_weather)

print(gz\_weather['weatherinfo']['temp'])

三、requests模块

**1、Get方法**

r = requests.get(url="", params={}, headers={}, cookies={})

**1）安装与应用**

[root@room9pc01 day04]# pip3 install requests

import requests (基于urllib的高级模块)

import pprint

r = requests.get('http://www.sogou.com') #get打开网站

print(r.text) #如果是文本内容使用text属性

r = requests.get('https://ss0.bdstatic.com/...m.jpg')

with open('/root/m.jpg', 'wb') as fobj:

fobj.write(r.content) #如果是二进制文件采用content属性

r = requests.get('http://www.weather.com.cn/data/sk/101280101.html')

print(r.encoding) #查看字符编码

r.encoding = 'utf8' #修改字符编码

pprint.pprint(r.json()) #如果是json格式就采用json方法

**2）传参**

import requests

url = 'https://www.sogou.com/web'

param = {'query':'人民币汇率'}

#相当于访问"https://www.sogou.com/web?query=人民币汇率"

#中文无需编码

r = requests.get(url, params=param)

with open('/tmp/sogou.html', 'w') as fobj:

fobj.write(r.text)

#r.text返回str类型，因此w方式打开

**3）修改请求头**

header = {'User-agent': 'curl/7.29.0'}

r = requests.get('http://127.0.0.1/', headers=header)

**4）状态码、触发异常**

from requests.exceptions import HTTPError

r = requests.get('http://127.0.0.1/abc')

print(r.status\_code) #返回状态码，此处为404

try:

r.raise\_for\_status() #触发异常，如无异常返回None

except HTTPError as e:

print('错误: ', e)

1. **使用cookie**

r = requests.get('hap://www.baidu.com')

r.cookies

r1 = requests.get('hap://www.baidu.com', cookies=r.cookies)

**2、Post方法**

r = requests.post(url="", data={}, params={}, file={}, headers={}, cookies={})

**Python百例：116-钉钉机器人**

# 参考：钉钉开放平台

import requests

import json

url = 'https://oapi.dingtalk.com/robot/send?access\_token=f679c96f370

28a6095cdb8cf098d446421bd95adcea65eebd0aa417bd7c3c3cd'

headers = {'Content-Type': 'application/json;charset=utf-8' }

data = {

"msgtype": "text",

"text": {

"content": "唔该收收皮"

},

"at": {

"atMobiles": [

"13336418777"

],

"isAtAll": False

}

}

r = requests.post(url, headers=headers, data=json.dumps(data))

print(r.json())

四、zabbix编程

**1、获取zabbix版本信息**

参考网站：https://www.zabbix.com/documentation/4.0/zh/manual

#相当于向zabbix服务器网页目录下api\_jsonrpc.php发送HTTP POST请求

import requests

import json

url = 'http://192.168.1.2/api\_jsonrpc.php'

header = {'Content-Type': 'application/json-rpc'}

data = {

"jsonrpc": "2.0", #固定，zabbix使用jsonprc的版本

"method": "apiinfo.version", #请求的方法

"params": [], #参数

"id": 1 #随便一个整数，表示事件ID

}

r = requests.post(url, headers=header, data=json.dumps(data))

print(r.json())

#结果：{'jsonrpc': '2.0', 'result': '3.4.4', 'id': 1}

**2、使用令牌访问数据**

在访问大多数zabbix中的数据之前，需要登陆并获取身份验证令牌

**1）获取令牌**

data = {

"jsonrpc": "2.0",

"method": "user.login",

"params": {

"user": "Admin",

"password": "zabbix"

},

"id": 1

}

r = requests.post(url, headers=header, data=json.dumps(data))

print(r.json())

#结果：{'jsonrpc': '2.0', 'result': '492f1...3133', 'id': 1}

1. **获取用户信息**

data = {

"jsonrpc": "2.0",

"method": "user.get",

"params": {

"output": "extend"

},

"auth": "492f1fc17071fcf1f67ff8faa9b73133",

"id": 2

}

**3）获取所有主机组信息**

data = {

"jsonrpc": "2.0",

"method": "hostgroup.get",

"params": {"output": "extend"},

"auth": "492f1fc17071fcf1f67ff8faa9b73133",

"id": 3

}

**4）创建主机**

#主机名为webserver1，它在Linux servers组中，应用Template OS Linux模板

data = {

"jsonrpc": "2.0",

"method": "host.create",

"params": {

"host": "Zabbix Server",

"interfaces": [ #接口，采用什么方式监控webserver1

{

"type": 1, #采用zabbix agent方式监控

"main": 1,

"useip": 1,

"ip": "192.168.4.2", #webserver1的IP

"dns": "",

"port": "10050"

}

],

"groups": [],

"templates": [],

"inventory\_mode": 0, #主机资产记录

"inventory": {}

},

"auth": "ae10101387ba2ef5b224beb18fd5732a",

"id": 1

}

**案例：121-配置zabbix通过钉钉机器人报警**