MacroHub软件安装部署指南

准备工作

- 硬件要求

```
CPU:    >= 4 core
Memory: >= 16GiB
Storage:
    OS:     >= 50GiB
    /opt/wfc:   >= 50GiB   # work and database storage
    /var/lib/docker: >= 50GiB
```

- 系统环境

```
Linux >= Ubuntu 22.04
JDK >= 1.8 (Recommended version 1.8) (用于Omada SDN Controller)
Omada SDN Controller > 5.15.6.7
docker >= 24.0.7, build 24.0.7-0ubuntu2~22.04.1
docker-compose >= v2.10.0
docker-buildx >= 0.14.1
```

- 安装docker, docker-compose和buildx插件

```
    sudo apt-get update
    sudo apt-get install -y docker.io

    # 安装docker-compose-v2插件
    sudo apt-get install -y docker-compose-v2
    sudo ln -s /usr/libexec/docker/cli-plugins/docker-compose
/usr/bin/docker-compose

    # 安装docker-buildx插件
    sudo apt-get install -y docker-buildx
    sudo ln -s /usr/libexec/docker/cli-plugins/docker-buildx
/usr/bin/docker-buildx
```

- 请确认docker, docker-compose和buildx插件的版本是否符合要求

```
    docker -v
    docker-compose -v
    docker buildx version
```

获取安装包

- TAR安装包

文件名： wfc-1.0.7-20250221.tar.gz

- DEB安装包

文件名：wfc-1.0.7-20250221.deb

说明：

- 版本号： 1.0.7
- 构建日期：20250221

根据情况获取最新版本的软件安装包

安装和配置软件

TAR包安装方式

- 创建安装目录

全新安装时需要此步骤，如果升级安装，则保留原有目录

```
    sudo mkdir /opt/wfc
```

- 解压软件包至安装目录

```
    sudo tar xvfz wfc-1.0.7-20250221.tar.gz -C /opt/wfc
```

DEB包安装方式

- 安装软件包

```
    sudo dpkg -i wfc-1.0.7-20250221.deb
```

- 安装后目录树

```
/opt/wfc                    # work root directory
├── bin                     # shell script and binary file
├── docker                  # docker compose work directory
│   ├── env                 # default docker environment file, will be
copy to docker compose work directory
│   ├── java                # java image directory
│   ├── mysql               # mysql database container directory
│   │   ├── conf
```

```
│   │   ├── conf.d
│   │   ├── data
│   │   ├── db
│   │   ├── logs
│   │   └── tmp
│   ├── nacos               # nacos container directory
│   │   ├── conf
│   │   └── logs
│   ├── nginx               # nginx container directory
│   │   ├── conf
│   │   ├── conf.d
│   │   ├── html
│   │   │   └── dist
│   │   │       ├── sys     # system portal
│   │   │       └── u       # user portal
│   │   └── logs
│   ├── redis               # redis container directroy
│   │   ├── conf
│   │   └── data
│   └── wfc                 # wfc container root directory
│       ├── auth            # auth root directory
│       │   └── jar
│       ├── gateway         # gateway root directory
│       │   └── jar
│       ├── modules         # modules root directory
│       │   ├── file
│       │   │   └── jar
│       │   ├── gen
│       │   │   └── jar
│       │   ├── job
│       │   │   └── jar
│       │   ├── payment
│       │   │   └── jar
│       │   ├── system
│       │   │   └── jar
│       │   └── user
│       │       └── jar
│       ├── upload          # file upload directory
│       └── visual
│           └── monitor
│               └── jar
└── systemd                 # service daemon file，will be copy to
/etc/systemd/system
    └── system
```

- 配置软件环境

```
cd /opt/wfc/bin
sudo ./wfcsetup.sh env 192.168.13.128   # 参数2是宿主机IP地址
```

- 修改docker环境参数

根据实际情况修改如下环境参数配置，说明： ** WFC_SERVER_IP的地址已经在上面配置过程被替换 ** TZ替换为宿主机系统时区

```
cd /opt/wfc/docker
cat .env
    WFC_CONFIG_DATABASE=wfc_config_db
    WFC_SYSTEM_DATABASE=wfc_system_db
    WFC_USER_DATABASE=wfc_user_db
    MYSQL_SERVICE_NAME=wfc-mysql
    MYSQL_SERVICE_PORT=3306
    MYSQL_ROOT_PASSWORD=123456
    MYSQL_SERVICE_USER=root
    MYSQL_SERVICE_PASSWORD=123456
    REDIS_PORT=6379
    NACOS_PROFILE_NAME=prod
    NACOS_NAME_SPACE=wfc-prod
    NACOS_SERVER_NAME=wfc-nacos
    WFC_SERVER_PORT=80
    NACOS_SERVER_PORT=8848
    GATEWAY_SERVER_PORT=8080
    AUTH_SERVER_PORT=8081
    WFC_FILE_PORT=9201
    WFC_JOB_PORT=9203
    WFC_PAYMENT_PORT=9204
    WFC_SYSTEM_PORT=9205
    WFC_USER_PORT=9206
    WFC_SERVER_IP=192.168.13.128
    NACOS_SERVER_IP=${WFC_SERVER_IP}
    GATEWAY_SERVER_IP=${WFC_SERVER_IP}
    RESTART_OPTION=on-failure:5
    TZ=Asia/Shanghai                                    #docker容器的时区
```

如果这些容器环境参数没有更改，可以直接运行如下命令设置环境和创建容器：

```
cd /opt/wfc/bin
sudo ./wfcsetup.sh all 192.168.13.128   # 参数2是宿主机IP地址
```

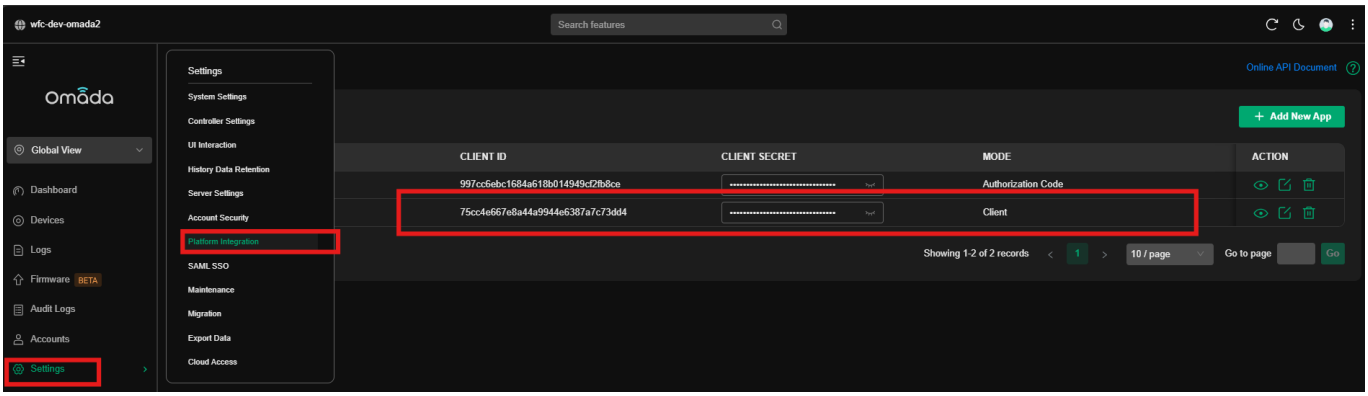
- 创建docker容器

如果已经运行'sudo ./wfcsetup.sh all 192.168.13.128'，如下命令可省略

```
cd /opt/wfc/bin
sudo ./wfcsetup.sh all
```

配置整合Omada平台的连接参数

- 从Omada服务中获取门户平台整合连接参数，如下图：



注意：连接的MODE采用Client， 具体的配置方式可参考Omada的相关文档

- 修改配置文件
  - 修改如下omada的配置项, 用于与Omada进行平台整合

```
cd /opt/wfc/docker/conf
cat application-common.yml

    ...

    # Omada config
    omada:
    # web url or host exp: 'https://192.168.2.249:8043'
    omada-url: 'https://aps1-omada-northbound.tplinkcloud.com'
    omadac-id: 'c4decbf73f80094019d664506ec9b4d4'
    client-id: '6110a77822234243a033e652d1e8a3ae'
    client-secret: '651957da95f14f45b719876bb68bd6f5'

    ...
```

  - 修改如下email的配置项, 用于发送邮箱验证码

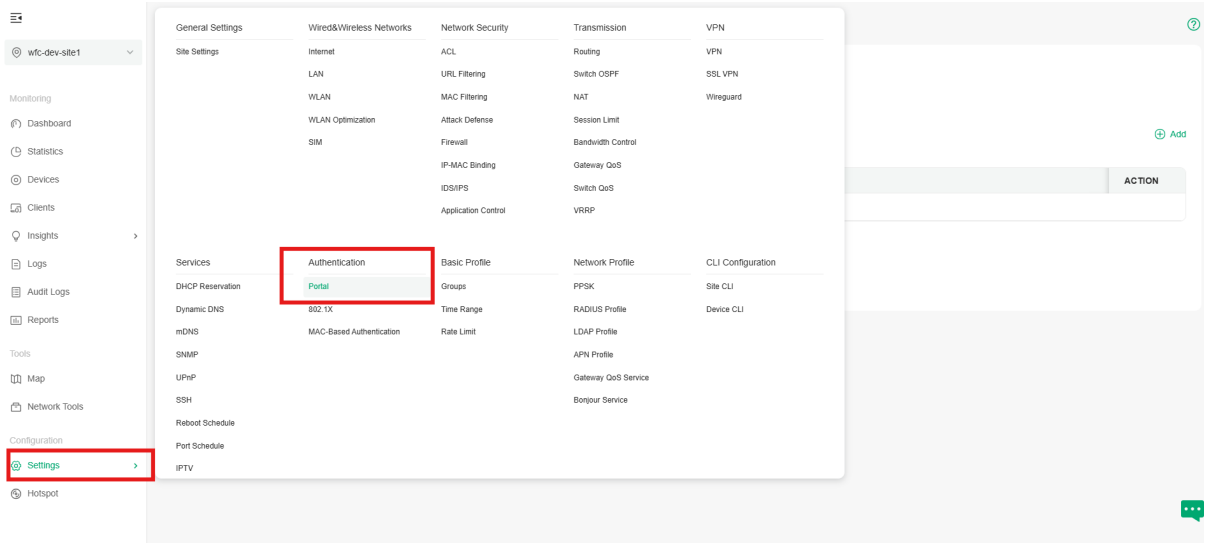
```
cd /opt/wfc/docker/conf
cat application-common.yml

    ...

    mail:
        enabled: true
        host: mail.agrandtech.com
        port: 25
        # Enable authentication
        auth: true
        # Sender, follows RFC-822 standard
        from: smtpext <smtpext@agrandtech.com>
        # User name
```

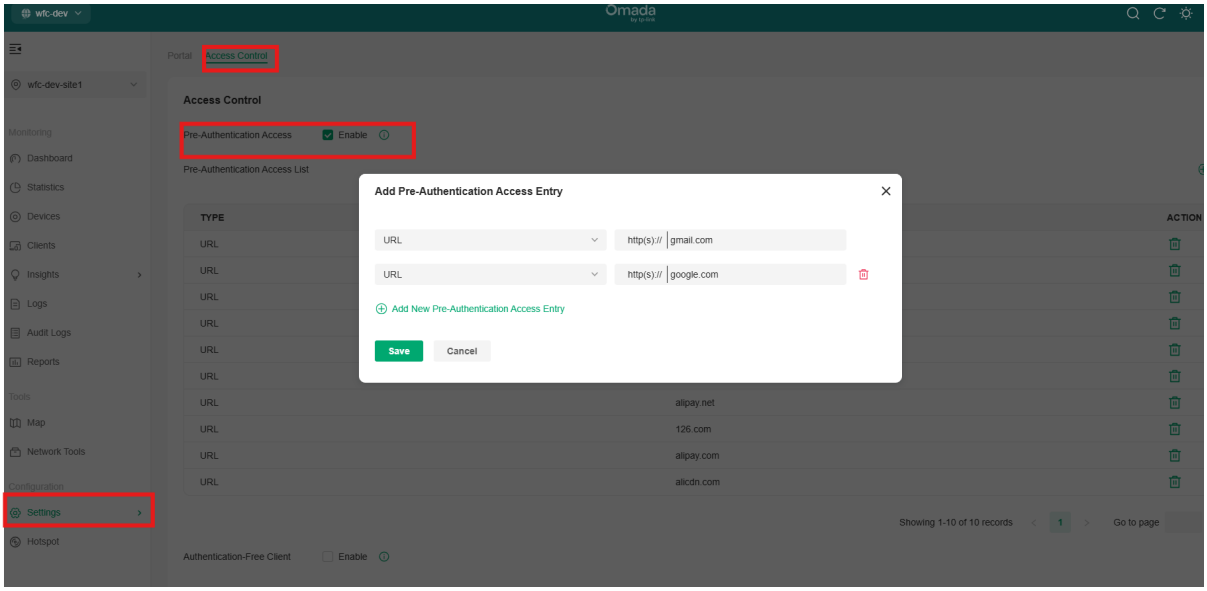
```
            user: smtpext
            # Password
            pass: Smtp123@agt
            # Use TLS security connection
            starttlsEnable: false
            # Use SSL security connection
            sslEnable: false
            # Timeout value for sending mail, in milliseconds
            timeout: 0
            # Connection timeout value, in milliseconds
            connectionTimeout: 0

        ...
```

- 在omada放行邮箱相关域名

  为了支持用户在首次登录AP时，无网络权限情况下，能够获取邮箱的验证码，可以在Omada上对邮箱相关的域名进行放行操作，具体操作如下：

  进入Omada后，选择需要配的站点，选择Settings->Authentication->Portal->Access Control->Pre-Authentication Access->勾选Enable，然后将该邮箱相关的域名增加到Pre-Authentication Access List, 注意需将所有访问邮箱涉及的所有域名都进行放行配置，下列图所示（放行的域名不一定完整）：





- 修改支付配置项

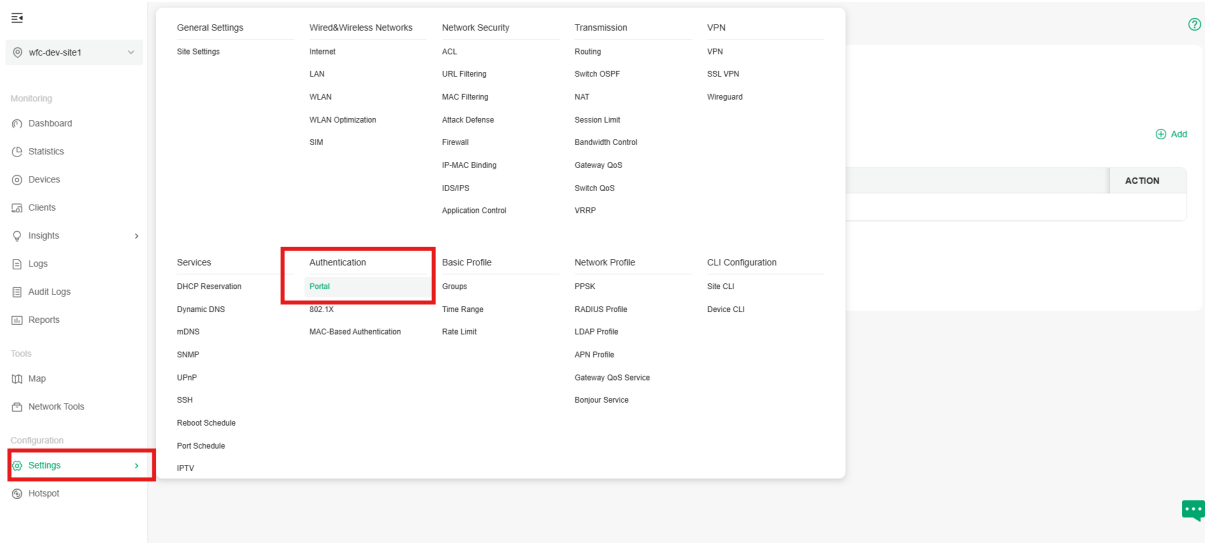
```
cd /opt/wfc/docker/wfc/modules/payment/conf/
cat application.yml

    ...

    # payment configuration,
    # alipay configuration
    alipay:
        appId: 9021000122699258
        privateKey:
MIIEvwIBADANBgkqhkiG9w0BAQEFAASCBKkwggSlAgEAAoIBAQC7YAcIXV5GJlTWBOoBcr
VG1zKxHunznSjYXwTS2DM3YgloxzKye4apfcmBDVnoL93m4QrJTtbiHYvu4yJjJfJsQEY+
Wo44IczhDypyu+Il6JpQOwylTs94/+3aaQ1wThsDaGs8edaFGteuw+1pUVl4nxF00fS1Vo
IR30riqAGFAXrPhcSA6Y9c8HK1htxCelICnPzjpqC4s8ZjrjS7FoyHP2ZAay5fx1VEtah3
0E4RvycFfV/i2+k3JGFOSeevdCx6Ufu+9Y/RaG4Sh84QuYRQUhAHUswlFDHpRrAnxHzt0z
DkOkg3BrCT7vMtBbSOP9BdIhpVTaZm4diQdNbLSl4hAgMBAAECggEAKb1Xc7aQ1KGfTlmj
4xSxawlvImOXjAwbWC+6fFlq91BgdjXBhl7b/Y+mvpfBymY3UUIaTAPC/HXGgT2ZoGqImT
KsMyGrArgM0qm1M//EfdtV3L96rqxirTqduoSiWL0daWHuWXduoRH8r9K3ZTmY67TLh7Fp
iKevq9mI7fqs8/qgq5QAN4UPFb3Cq9hDNTU4l6+Bywdg1KkwJ2Jc98SlrIdVl+1eCMAgue
LR0aNHTobyPBZ/KfwGRV0OQ3QqjLVgL3zlbzuylYhaZqPgxxd46vgWwkyMiiv7u2OyCetq
```

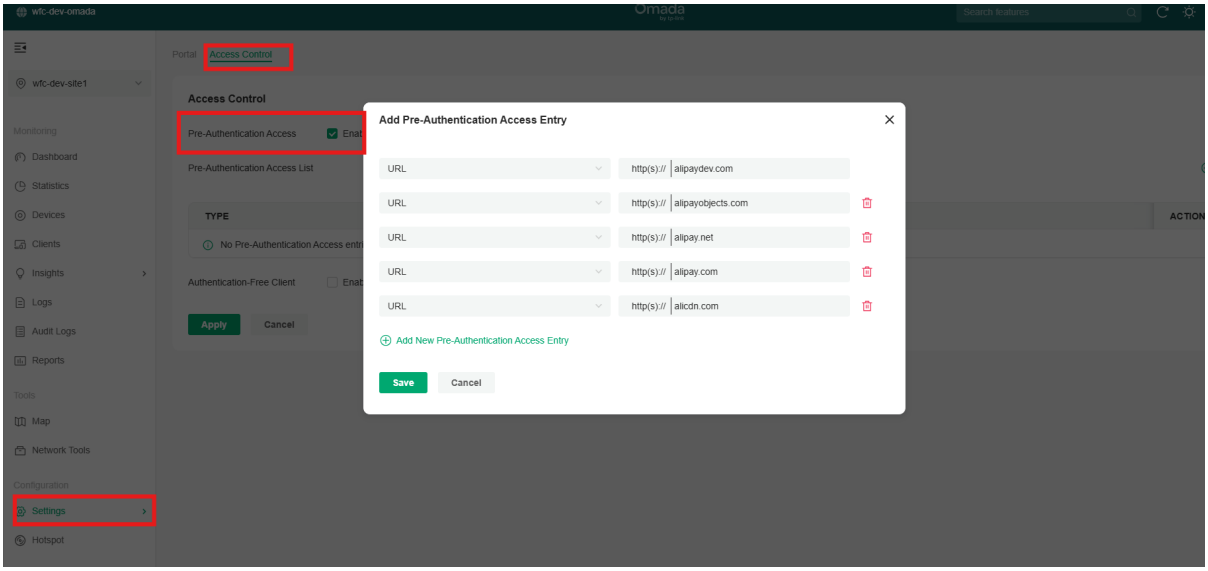
```
4LFd+tcNDz0Yqk6rK9/S0oxbN8NM5DLkpwFh/433BoPS3QKBgQD/dsxNr2PYdPLp6pOvw7
H2AFMH8CkwTlRg+2f/0fgQF14rJwZgEU6fL5A2JvQeRRC5mCff2m5tDqrS321JNyH/JIKJ
+4J8I34GEo/kSCHL3RmyvJGQOQ/EpEyxvP8BV3ob6UO3LR58DOGlJr8eTsr3Y8o9cAMukn
CNxvsd2LvybwKBgQC7xKkx4KIPBny6sCOtChOkgIrY3hOCi+ZsHQVESXKzeku0NkH/qrAG
+S9pb1XCzXdM2HrzkMeuz6tqi+2TY8nORyY2DZHNW7FqzkAiZ/NO2AgGIlALq1ZfJZke2M
xgtBnxSsQ03gfXP9opu/FsLH9a+s6edfHPvKD4kHxlLBfAbwKBgQDYvr6QmuKn4HHJLZGo
au0uvw+ziHwp1AubTTLrxgYmAO2Qx0eNcqG2RfChQWOV2xtZnFMYhodyWCNvTsm2eOSLST
rIP3BySтq95DnZganLAgivsXX/W6qZOJ0poCTryoB79enSHKHktjksmjdFS6zBQRVyEvtg
JDcC03Rz2lN8WQKBgQCCoJE4otb7bv7s/ccEBeOeaNKvhue5xUwbYKEeXZ6PYAA0sh5+GC
f34flq90qJiFl7u4rl0Y4pfk35hLlV9XEasYLSzePmIuktrakOhpTNABus8MgRJjSjYsvA
mwCsMf9uTx5qzSBVThWfPSH6qIY9LAj8Un9UjxzJb/Mqi19GvwKBgQC0/KB+3robTqy9KO
V4iEKJ4kmnXDRu7ecpMyc8k5HzpolIHcXLZHkBK9pMCXBQ9Kwy6BjRGNnUZOahS+tvnMcj
Hpwdhu90r7D51GXW/+PeFtphYTscFhHv1yuWbbojzhKf69pZnsVmyllIBqRgtbkS2WNHxW
o/peCg47TcLaQNMA==
            publicKey:
MIIBIjANBgkqhkiG9w0BAQEFAAOCAQ8AMIIBCgKCAQEAhBZoE6p1TKpd/WsAJRTA2D6yUT
zqLmZ73scxbPxxKwPIg2ys2Ap21u/lVmqBWO9Wf2Z7wUwr/6BP1PQqVpg0GAqU3yjjZ0LG
fBitzMBMbGrlOLqJQ3PKgnUNmnOdLR4FlHCAjKtuyxjHkxBTHg/L4punk4lkFJQD8YvzFr
YalS6WYw5j1/oq080NbcjPirPCRlsU7MRraQuUqSTdPwm2iHkroKwCEbGv+RtNJCfOkKNQ
VtRFFgPGMhU4nQ620gdfzsGJsNFKVJnD5SjeDWniBAbaGaVF4rEfKJPe6+XrcMg3h+9Fz+
A2IU1KCCoth2neEZEaU1t0KBGxXIuo4efi/QIDAQAB
            appCertPath: \u5E94\u7528\u516C\u94A5\u8BC1\u4E66
            aliPayCertPath: \u652F\u4ED8\u5B9D\u516C\u94A5\u8BC1\u4E66
            aliPayRootCertPath: \u652F\u4ED8\u5B9D\u6839\u8BC1\u4E66
            serverUrl: https://openapi-
sandbox.dl.alipaydev.com/gateway.do
            domain: http://192.168.2.249
            testDomain: http://129.204.171.210:8085

        # wxpay configuration
        wxpay:
            appId:
            appSecret:
            mchId:
            partnerKey:
            certPath:
            domain: http://192.168.2.249/u

        ...
```

- 在omada放行支付相关域名

  为了支持用户在首次登录AP时，无网络权限情况下，能够购买套餐或者余额充值正常进行支付，需要在Omada上对支付相关的域名进行放行操作，具体操作如下：

  进入Omada后，选择需要配的站点，选择Settings->Authentication->Portal->Access Control->Pre-Authentication Access->勾选Enable，然后将该支付方式相关的域名增加到Pre-Authentication Access List, 注意需将所有支付涉及的所有域名都进行放行配置，下列图所示（放行的域名不一定完整）：





- 邮件内容自定义

  客户平台邮件模板位于目录/opt/wfc/docker/conf/templates/system/ 用户平台邮件模板位于目录/opt/wfc/docker/conf/templates/user/ 验证码模板：mail.html 流量提醒模板：trafficReminder.html 余额提醒模板：balanceReminder.html 发票模板: invoice.html 修改邮件模板即可，修改后直接生效，模板采用Thymeleaf引擎，支持html语法，可自定义文本内容和样式。 除了占位符变量如等，其余内容均可自定义修改

- 修改套餐流量不足或余额不足配置项

```
cd /opt/wfc/docker/wfc/modules/user/conf/
cat application.yml

  ...

  # 提醒配置
  reminder:
    # 是否开启流量提醒
    trafficEnable: true
    # 流量提醒阈值，单位：百分比, 如剩余小于10%会触发邮件提醒
    trafficThreshold: 10
    # 是否开启余额提醒
```

```
    balanceEnable: true
    # 余额提醒阈值，单位：跟随系统， 如余额小于5元会触发邮件提醒
    balanceThreshold: 5
    # 流量提醒邮件标题
    trafficTitle: 'Traffic Reminder'
    # 余额提醒邮件标题
    balanceTitle: 'Balance Reminder'

  ...
```

- 统一修改系统名

  修改环境变量文件

```
cd /opt/wfc/docker
cat .env

  ...
  SYSTEM_TITLE=MacroHub
  ...
```

  修改后需要重新执行并重启

```
  cd /opt/wfc/bin
  sudo ./wfcsetup.sh all 192.168.13.128   # 参数2是宿主机IP地址
```

  或者直接修改国际化文件无需重启

```
  cd /opt/wfc/docker/nginx/html/dist/u/langs
  cat zh-cn.js
  cat en-us.js

    ...

      system: {
        title: 'MacroHub'
      }

    ...
```

- 启动/查看/停止/版本软件

```
cd /opt/wfc/bin
sudo ./wfccontrol.sh start/restart/status/stop/version
```

通过浏览器访问客户平台和用户平台

- 客户平台门户地址：

```
http://192.168.13.128/sys
```

- 用户平台门户地址：

```
http://192.168.13.128/u
```