# 1. Services

Mysql	Version 8.0.25 User: root Password: Modbus123! IP: 155.69.142.189 Port: 3306 Environment: Ubuntu 16.04
Grafana	http://155.69.142.189:3000 Username: admin Password: admin Environment : Ubuntu Docker
Web/API Server	http://155.69.142.189:5000 Username: admin Password: Modbus123! Environment : Ubuntu Docker
Ubuntu 16.04	IP：155.69.142.189 User: rda Password: rda123 Project Dir: ~/ModBus

2. Web

http://155.69.142.189:5000/
Username: admin
Password: Modbus123!
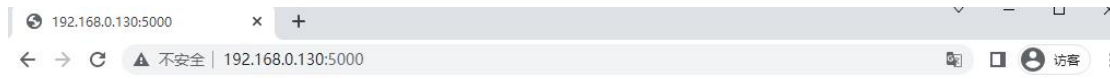
Login

Username: _____

Password: _____

Submit

Logout

2022-09-09 14:33:16

Real-time Readings

room_temperature_setpoint:	23.1	off_coil_temperature:	23.0	
room_temperature_1:	22.8	chwr_temperature:	21.4	
room_temperature_2:	22.9	chws_temperature:	8.9	
room_humidity_1:	46.9	water_leakage_status:	0	
room_humidity_2:	48.5	chw_valve_cmd:	12.2	
bms_local:	0	chw_valve_position:	11.5	
fcu_ss_cmd:	0	chw_flow_rate:	11941	
fcu_trip:	0	U:	228.923	
fcu_status:	1	I:	7.633	
fcu_low_speed:	0	PF:	5.0000	
fcu_med_speed:	0	W:	2233	
fcu_high_speed:	0	KWH:	1234561.89	
fcu_airflow_rate:	8469			

Control Handlers

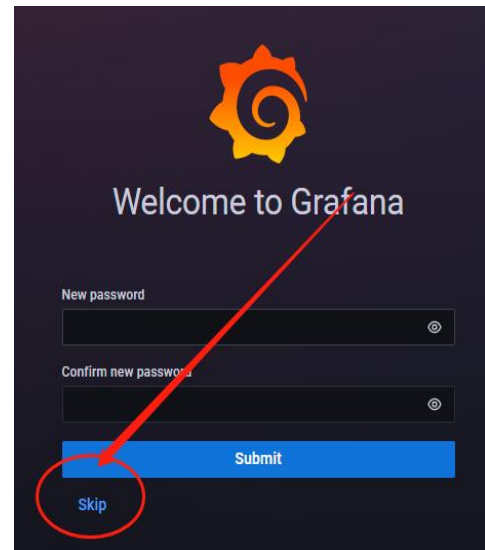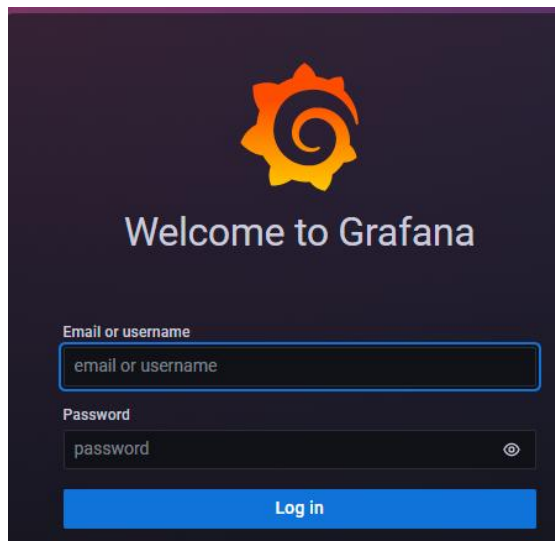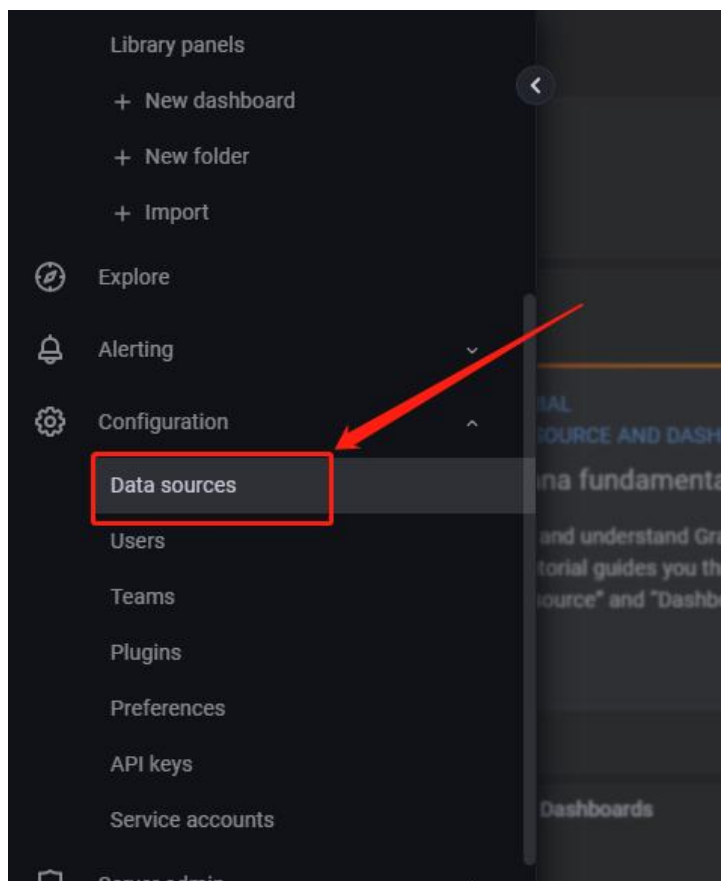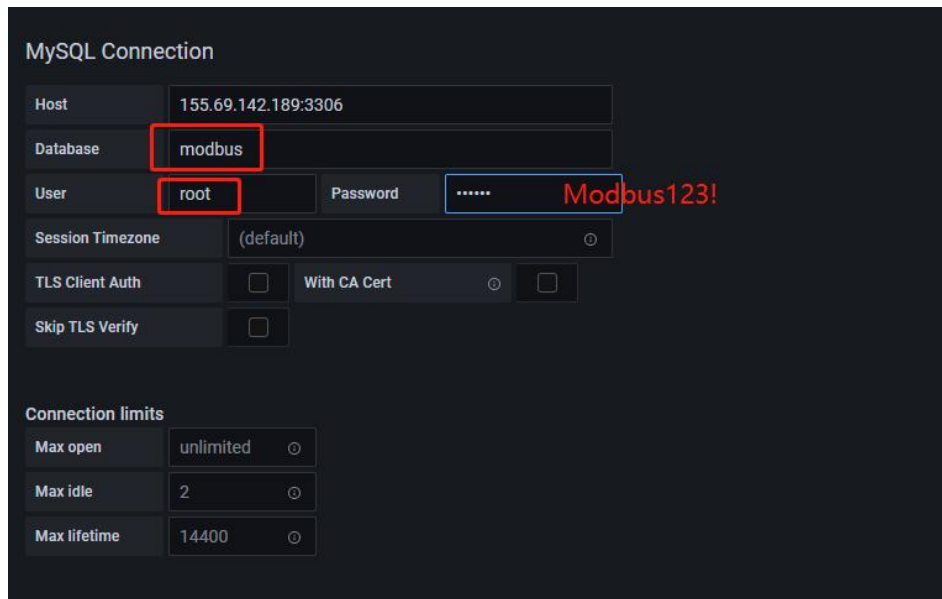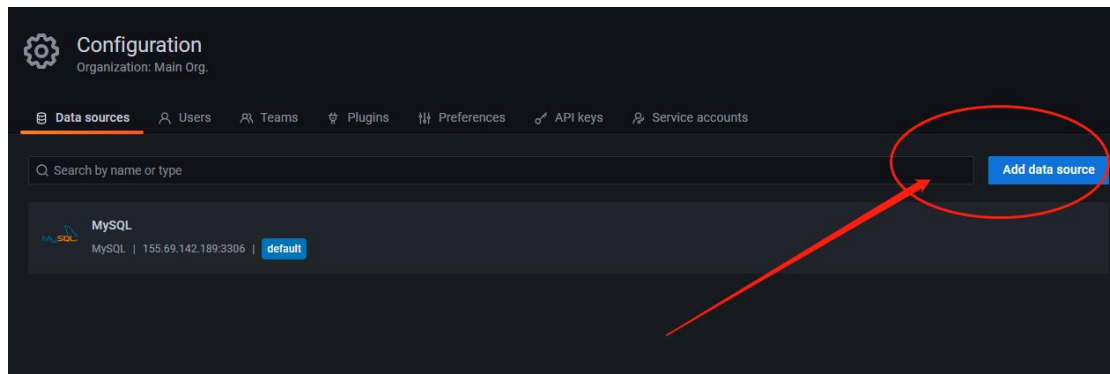|	
room_temperature_setpoint	23.1
valve_ovr_flag	0
valve_ovr_cmd	10.0
fcu_ss_ovr_flag	0
fcu_ss_ovr_cmd	0
fcu_speed_ovr_flag	0
fcu_speed_ovr_cmd	0

Update

copy right

3. Grafana

3.1 Login

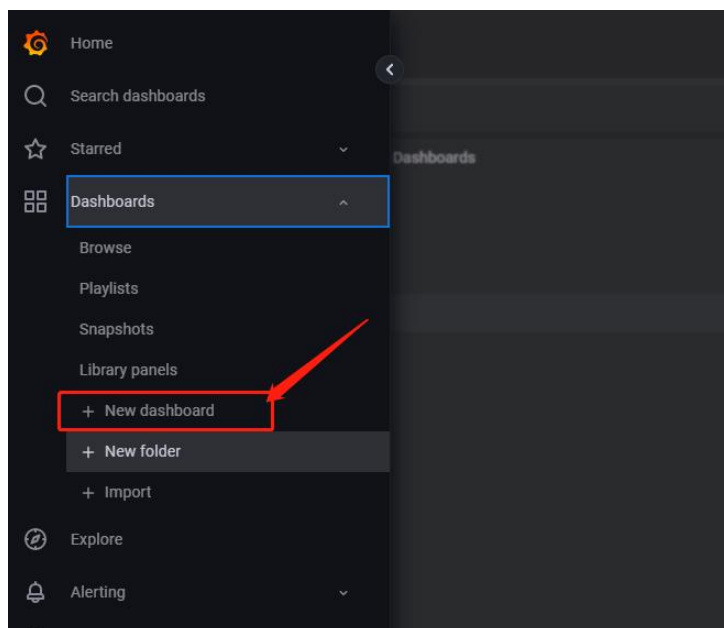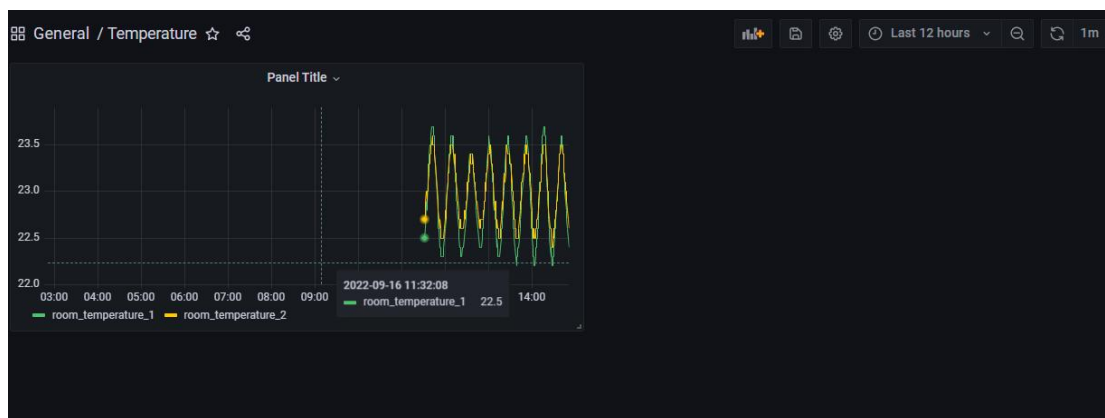http://155.69.142.189:3000/
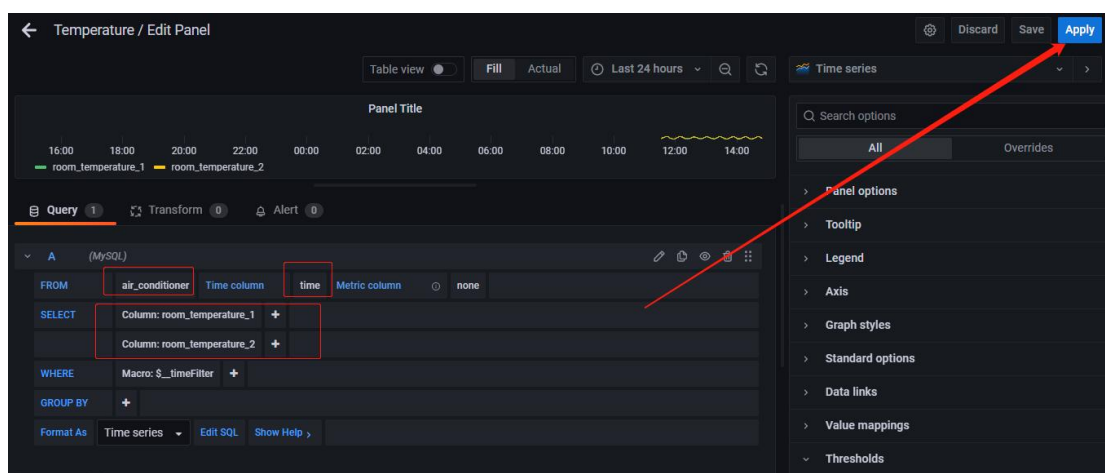Username: admin
Password: admin

3.2 Add Data Sources

3.3 Add Dashboards
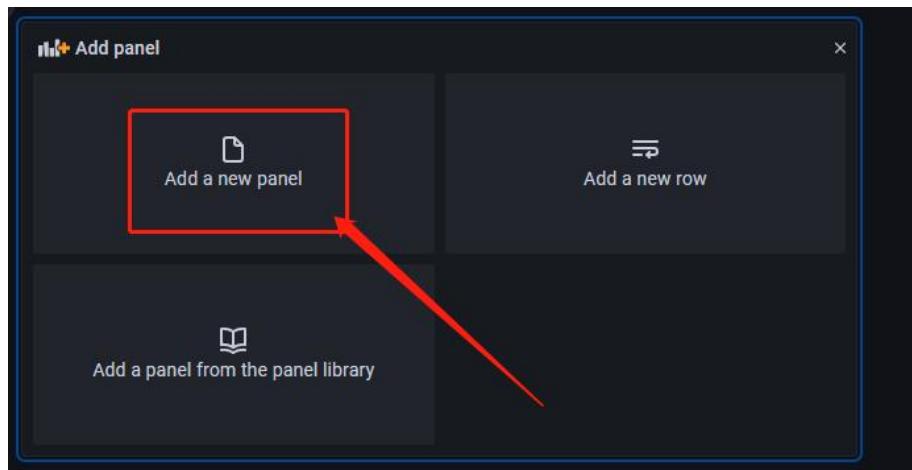
4. API

4.1 Get Registers Data

Http Get   http://155.69.142.189:5000/airconditioner
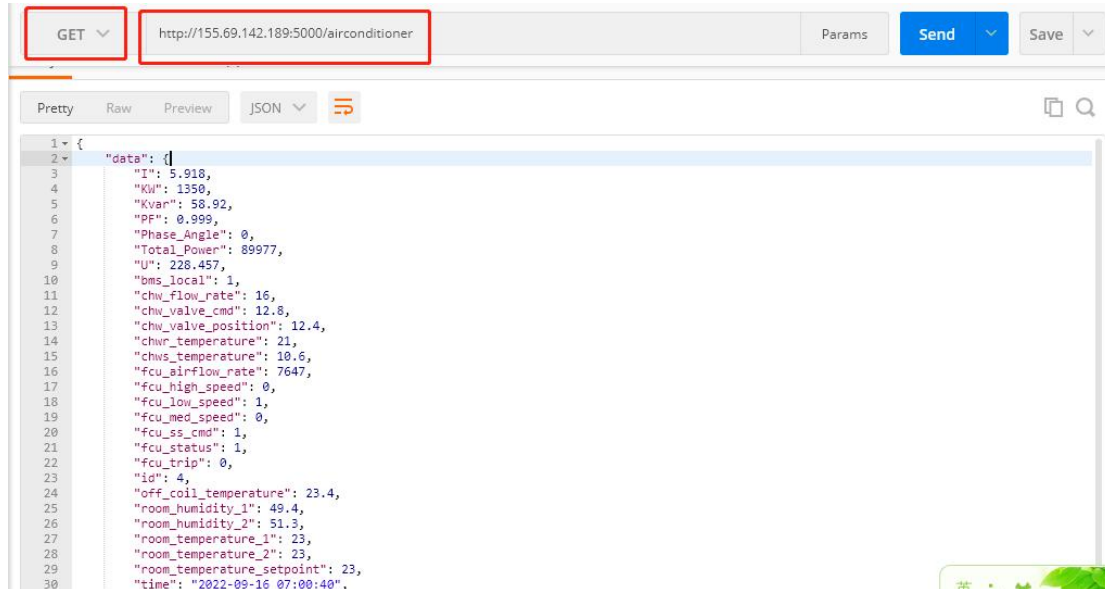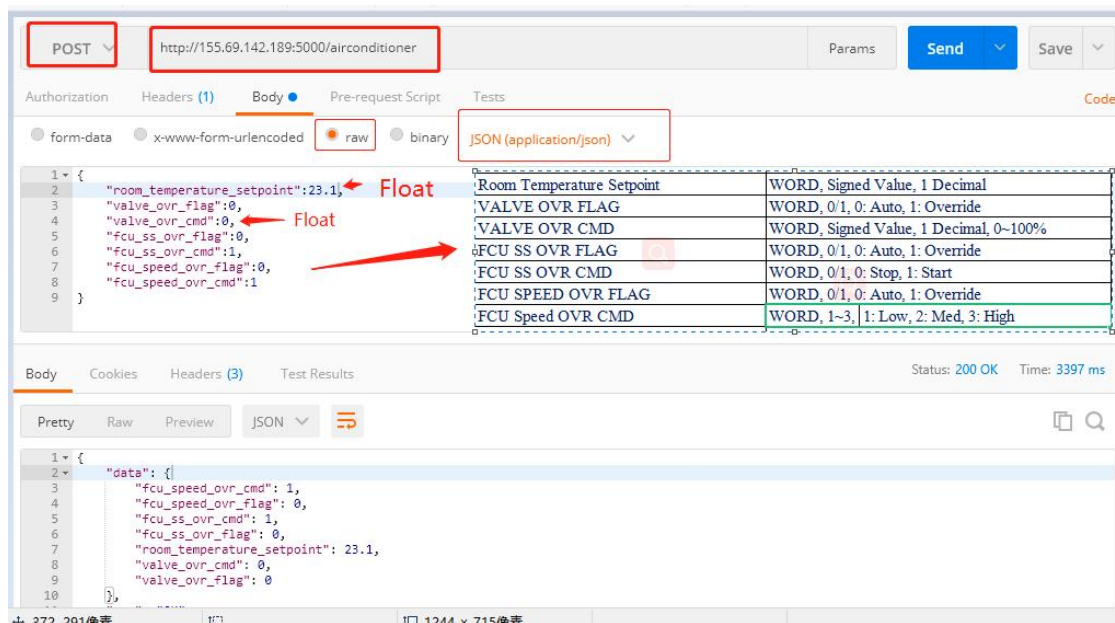
4.2 Set Registers Data

Http   POST   http://155.69.142.189:5000/airconditioner

5. Modbus Information

5.1 Modbus TCP

IP: 155.69.142.189
Port: 502

5.2 Power Meter

Modbus Address: 100
Input Register (RO)

Name	Register	Type
Voltage	0	Float
Current	16	Float
KW	30	Float
Power Factor	54	Float
Phases	58	Float
Total Power	506	Int

5.3 Air Conditioner

Modbus Address: 100
Holding Registers(R/W)

Name	Register	Type
Room Temperature Setpoint	0	Int(scale x 0.1 -> Float)
Valve ovr flag	1	Int
Valve ovr cmd	2	Int(scale x 0.1 -> Float)
Fcu ss ovr flag	3	Int
Fcu ss ovr cmd	4	Int
Fcu speed ovr flag	5	Int
Fcu speed ovr cmd	6	Int

Input Register (RO)

Name	Register	Type
Room temperature 1	0	Int(scale x 0.1 -> Float)
Room temperature 2	1	Int(scale x 0.1 -> Float)
Room humidity 1	2	Int(scale x 0.1 -> Float)
Room humidity 2	3	Int(scale x 0.1 -> Float)
Bms local	4	Int
Fcu ss cmd	5	Int
Fcu status	6	Int
Fcu trip	7	Int
Fcu low speed	8	Int
Fcu med speed	9	Int
Fcu high speed	10	Int
Off coil temperature	11	Int(scale x 0.1 -> Float)
Water leakage status	12	Int
Chws temperature	13	Int(scale x 0.1 -> Float)
Chwr temperature	14	Int(scale x 0.1 -> Float)
Chw flow rate	15	Int
Chw valve cmd	16	Int(scale x 0.1 -> Float)

Chw valve position	17	Int(scale x 0.1 -> Float)
Fcu airflow rate	18	Int

6. IP

If the Ubuntu 16.04 IP has changed, please access the server with **rad** account.

➢ modify /home/rda/ModBus/ModBus/Web/main.py

```
import modbus_tk.defines as cst
import modbus_tk.modbus_tcp as modbus_tcp
from flask_migrate import Migrate

from sqlalchemy import create_engine
from sqlalchemy.ext.declarative import declarative_base
from sqlalchemy.orm import sessionmaker
from sqlalchemy import Column, Integer, SmallInteger, DECIMAL, DateTim

from jsonschema import validate
from validate_params import schema
from decimal import Decimal

MYSQL_HOST = '155.69.142.189'
MYSQL_USERNAME = 'root'
MYSQL_PASSWORD = 'Modbus123!'

MODBUS_TCP_SERVER = '155.69.142.197'
MODBUS_TCP_PORT = 502

db_url = 'mysql+pymysql://{username}:{password}@{hostname}:{port}/{dat
    username=MYSQL_USERNAME, password=MYSQL_PASSWORD, hostname=MYSQL_H

# 创建引擎
engine = create_engine(db_url)
Session = sessionmaker(bind=engine)
dbSession = Session()
```
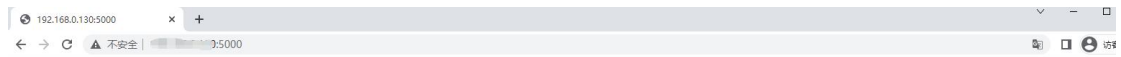
➢ Restart the service or reboot Ubuntu 16.04

```
rda@bdp-05:~$
rda@bdp-05:~$
rda@bdp-05:~$ cd ModBus/ModBus/
rda@bdp-05:~/ModBus/ModBus$ sudo docker-compose restart
[sudo] password for rda:
Restarting web     ... done
Restarting grafana ... done
rda@bdp-05:~/ModBus/ModBus$
```

➢ Visit the website with the new IP

http://IP:5000/

http://IP:3000