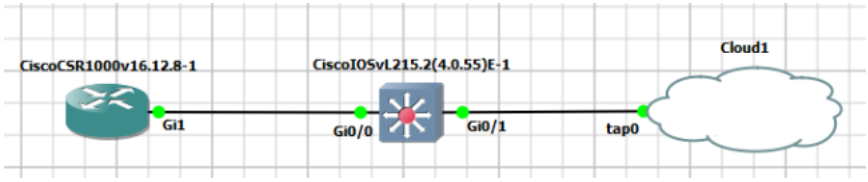
LAB: Enable the Telemetry configuration on Cisco Router, Telegraf will receive the stats and store in Influx DB , Grafana will be used to display the stats.

Step1 : Build the topology as per below, DHCP server will assign the IP address on Router




```
*Jan 14 05:21:33.241: %SYS-5-CONFIG_I: Configured from console by consoleip int
b
Interface              IP-Address      OK? Method Status                Protocol
GigabitEthernet1       172.20.0.79     YES DHCP   up                    up
GigabitEthernet2       unassigned      YES unset  down                  down
GigabitEthernet3       unassigned      YES unset  down                  down
GigabitEthernet4       unassigned      YES unset  down                  down
```

Step 2: Configure the router for Yang-Management process

user admin privilege 15 secret cisco123

aaa new-model

aaa authentication login default local

aaa authorization exec default local

Netconf-yang

Show platform software yang-management process

```
Router#show platform software yang-management process
confd            : Running
nesd             : Running
syncfd           : Running
ncsshd           : Running
dmiauthd         : Running
nginx            : Running
ndbmand          : Running
pubd             : Running
```

Step 3: Configure the Telemetry on router for CPU, Memory, and Interface

Login to below URL:

https://github.com/jeremycohoe/cisco-ios-xe-mdt/blob/master/cat9k-174-device-health-dashboa

Configure the Telemetry for IETF 3305, 3307, 3310, 3313, 3314 as per the commands described on above URL

Source IP address: Ip address of router (check show ip interface br)

Receiver IP: 172.20.0.11 (Telegraf IP address)

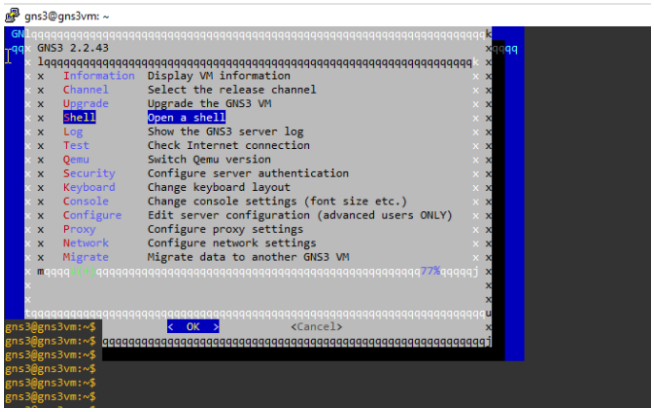
Post configuration, check the status of Telemetry on router as per below

```
Router#show telemetry ietf subscription all
  Telemetry subscription brief

  ID               Type        State       Filter type
  ---------------------------------------------------------
  3305             Configured  Valid       xpath
  3307             Configured  Valid       xpath
  3310             Configured  Valid       xpath
  3313             Configured  Valid       xpath
  3314             Configured  Valid       xpath
```

```
Router#show telemetry internal connection
Telemetry connection

Peer Address    Port  VRF Source Address  Transport  State         Profile
--------------- ----- --- --------------- ---------- ------------ -----------
172.20.0.11     57500   0 172.20.0.79     grpc-tcp   Active
```

Step4: Login via putty (IP: 172.20.0.11) (user : gns3 Pass: gns3)

Go to shell prompt



Go to path: cd /opt/others/telegraf

Check the telegraf and influxdb container configuration

```
gns3@gns3vm:/opt/others/telegraf$ cat docker-compose.yml
version: '3.6'
services:
  telegraf:
    image: telegraf:1.18-alpine
    volumes:
    - ./telegraf_etc/telegraf.conf:/etc/telegraf/telegraf.conf:ro
    depends_on:
      - influxdb
    links:
      - influxdb
    ports:
    - '57500:57500'

  influxdb:
    image: influxdb:1.8-alpine
    env_file: configuration.env
    ports:
      - '8086:8086'
    volumes:
      - ./:/imports
      - ./influxdb_data:/var/lib/influxdb
```

```
gns3@gns3vm:/opt/others/telegraf$ cat telegraf_etc/telegraf.conf
# Global Agent Configuration
[agent]
hostname = "cisco_mdt"
flush_interval = "5s"
interval = "5s"

# gRPC Dial-Out Telemetry Listener
[[inputs.cisco_telemetry_mdt]]
transport = "grpc"
service_address = ":57500"

# Output Plugin InfluxDB
[[outputs.influxdb]]
database = "mdt_grpc"
urls = [ "http://172.20.0.11:8086" ]

[[outputs.file]]
files = ["/tmp/telegraf-grpc.log"]
```

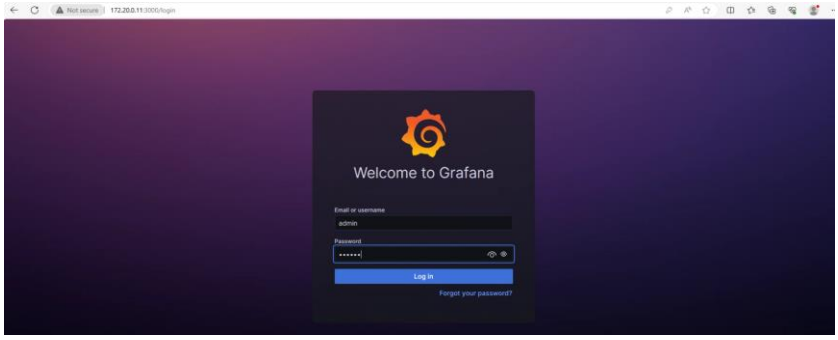
Run the container as per below

Docker-compose up -d

```
gns3@gns3vm:/opt/others/telegraf$ docker-compose up -d
[+] Building 0.0s (0/0)
[+] Running 2/0
 ✔ Container telegraf-influxdb-1  Running
 ✔ Container telegraf-telegraf-1  Running
```

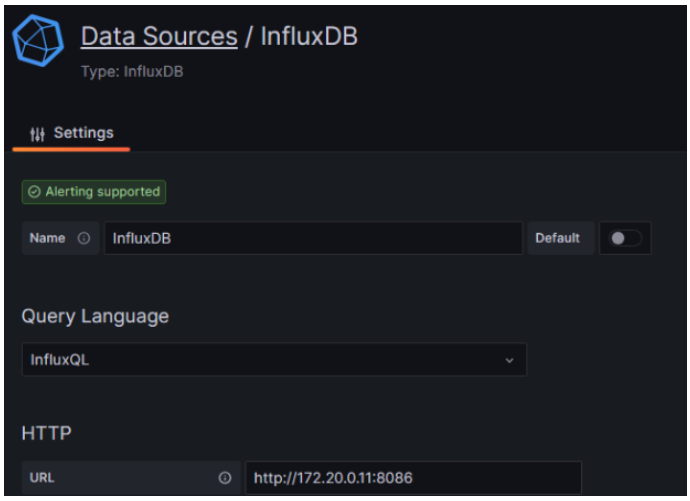
Step 5: Login to Grafana:

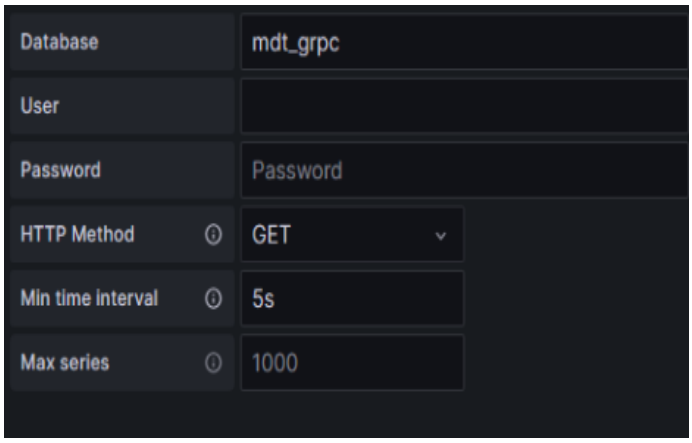
172.20.0.11:3000 (admin/mypass)



Import the InfluxDB database

Connection/ data source

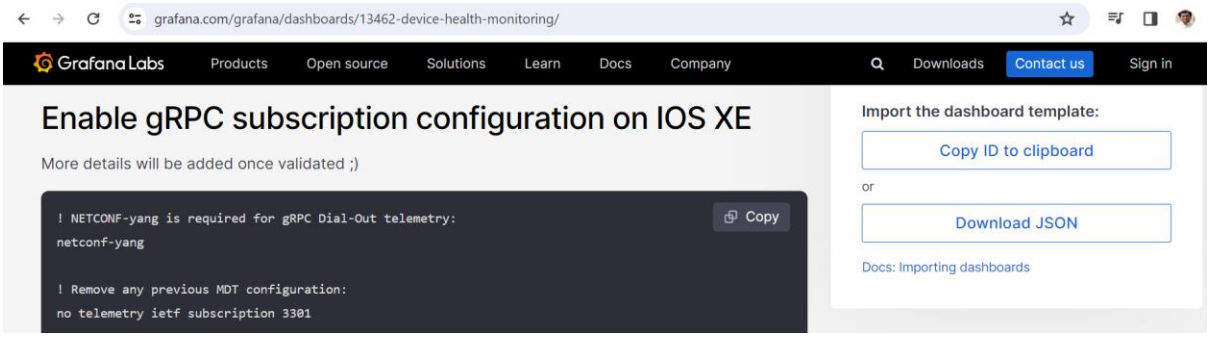




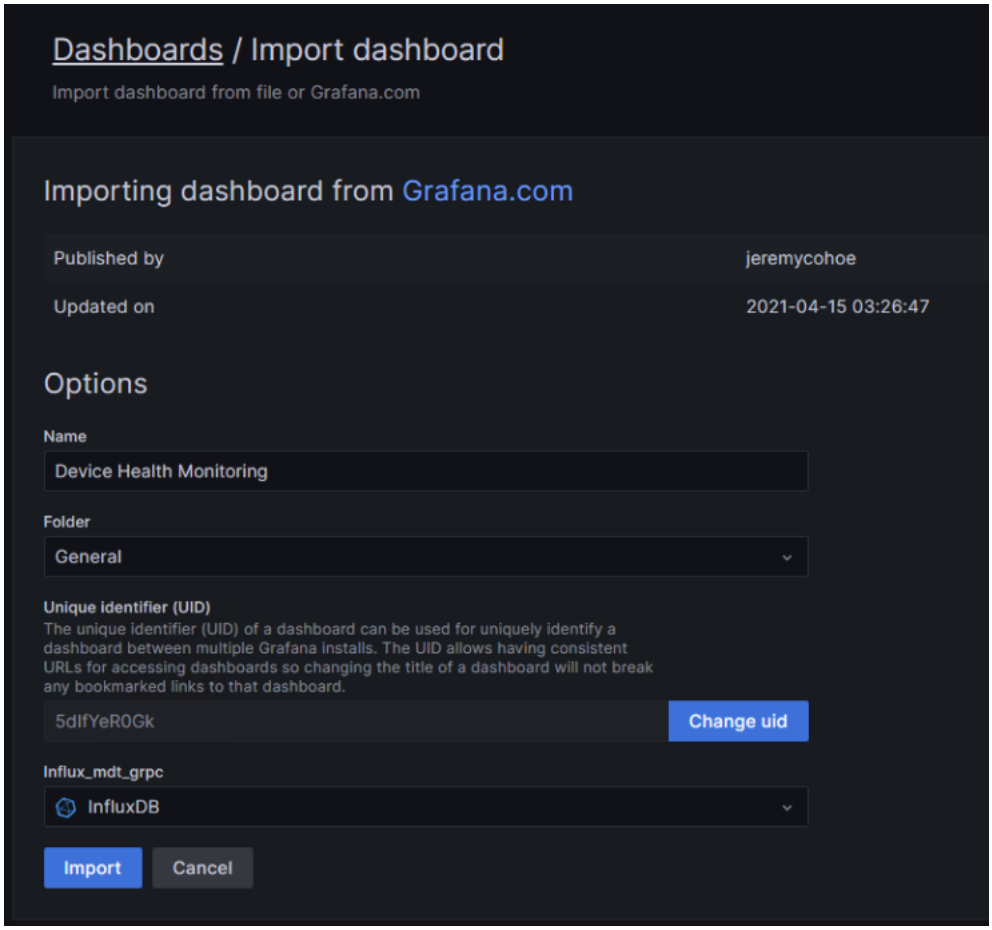
Import the Dashboard:

https://grafana.com/grafana/dashboards/13462-device-health-monitoring/

Copy to clipboard



Go to Grafana: Dashboard/import



Check the Grafana Dashboard: CPU, Memory, and interface stats to be updated.