

Code for IoT software set installation on Linux environment by steps

<https://chatgpt.com/c/67ca72b2-1160-8012-94c2-ceaf6fa6106e>

ChatGPT 의 말:

A step-by-step guide with a Bash script to automate the installation of IoT-related software on a Linux environment. The script covers:

1. System update
2. Installing necessary dependencies (e.g., Python, Node.js, MQTT, Docker, OpenSSL)
3. Configuring firewall and security settings
4. Installing IoT frameworks (e.g., Eclipse Mosquitto, Node-RED, ThingsBoard)
5. Verifying installation

IoT Software Installation Script for Linux (Ubuntu/Debian-based)

Save this as `install_iot_software.sh` and run it with `sudo bash install_iot_software.sh`.

IoT Setup Linux

Instructions to Run the Script

- ① Save the script as `install_iot_software.sh`
- ② Make it executable:
- ③ `bash`
복사편집
- ④ `chmod +x install_iot_software.sh`
- ⑤ Run with `sudo`:
- ⑥ `bash`
복사편집
- ⑦ `sudo bash install_iot_software.sh`

This script ensures a secure and functional IoT environment on a Linux system

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Iot Setup Linux

```
#!/bin/bash
```

```
# Step 1: Update and upgrade system
```

```
sudo apt update && sudo apt upgrade -y
```

```
# Step 2: Install essential dependencies
```

```
sudo apt install -y curl wget git build-essential python3 python3-pip nodejs npm \
```

```
openssl ufw mosquitto mosquitto-clients docker.io docker-compose
```

```
# Step 3: Enable and start Mosquitto MQTT Broker
```

```
sudo systemctl enable mosquitto
```

```
sudo systemctl start mosquitto
```

```
# Step 4: Install Node-RED (for IoT automation and flow-based development)
```

```
sudo npm install -g --unsafe-perm node-red
```

```
# Step 5: Install ThingsBoard (IoT platform)
```

```
wget https://github.com/thingsboard/thingsboard/releases/download/v3.5/thingsboard-3.5.deb
```

```
sudo dpkg -i thingsboard-3.5.deb
```

```
sudo systemctl enable thingsboard
```

```
sudo systemctl start thingsboard
```

```
# Step 6: Install InfluxDB (for time-series data management)
```

```
wget -qO- https://repos.influxdata.com/influxdb.key | sudo tee /etc/apt/trusted.gpg.d/influxdb.asc
```

```
source /etc/os-release

echo "deb https://repos.influxdata.com/${ID} ${VERSION_CODENAME} stable" | sudo tee
/etc/apt/sources.list.d/influxdb.list

sudo apt update && sudo apt install -y influxdb

sudo systemctl enable influxdb

sudo systemctl start influxdb


# Step 7: Configure firewall to allow IoT traffic

sudo ufw allow 1883/tcp # MQTT

sudo ufw allow 8883/tcp # Secure MQTT

sudo ufw allow 5683/udp # CoAP

sudo ufw allow 8080/tcp # ThingsBoard Web UI

sudo ufw allow 8086/tcp # InfluxDB

sudo ufw enable


# Step 8: Verify installations

echo "Checking installed versions:"

mosquitto -v

node -v

npm -v

python3 --version

docker --version

influxd version


# Completion message

echo "IoT software setup completed successfully!"
```

This code is a example for process learning not for program logics learning