

ASSIGNMENT ON HOME ASSISTANT BY NAKSHATHRA AUTOMATION

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MQTT Topic Used: home/indu-2025/sensor

1. About the Assignment:

- In this project, I integrated Python, MQTT, and Home Assistant. The main objective was to publish sensor data using a Python script and display the values live inside Home Assistant.

2. Sensor Values I Used

I published three values:

- Temperature: 25°C
- Humidity: 60%
- Vibration (my extra sensor): 1

Along with this, I also sent my name and register number as required.

3. Why I have Chosen the Vibration Sensor?

- I selected Vibration as my extra sensor because it is simple and commonly used in real IoT systems and it represents movement or shaking.
- Value 1 means vibration detected and 0 means no vibration.

4. Steps I Followed

1. I installed Home Assistant OS on VirtualBox.
2. I installed the Mosquitto MQTT broker add-on and enabled it.
3. I configured the MQTT integration with my username and password.
4. I wrote a Python script to publish temperature, humidity, vibration, name and ID.
5. I published data to my topic home/indu-2025/sensor.
6. I added MQTT sensors in configuration.yaml to show the values on the dashboard.
7. I verified the output on both the Python terminal and Home Assistant dashboard.
8. Finally, I uploaded all project files to GitHub.

5. Final Output

All my sensor values were successfully displayed in Home Assistant:

- Temperature
- Humidity
- Student Name
- Vibration

This completes my Home Assistant - MQTT integration assignment.