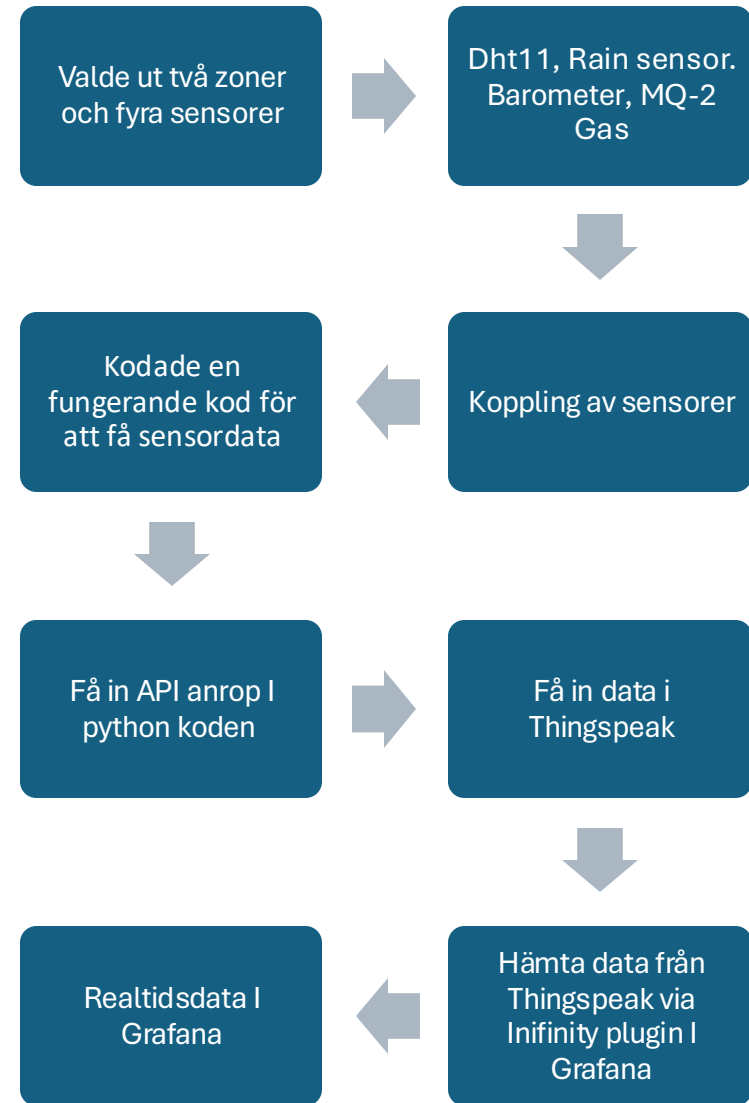


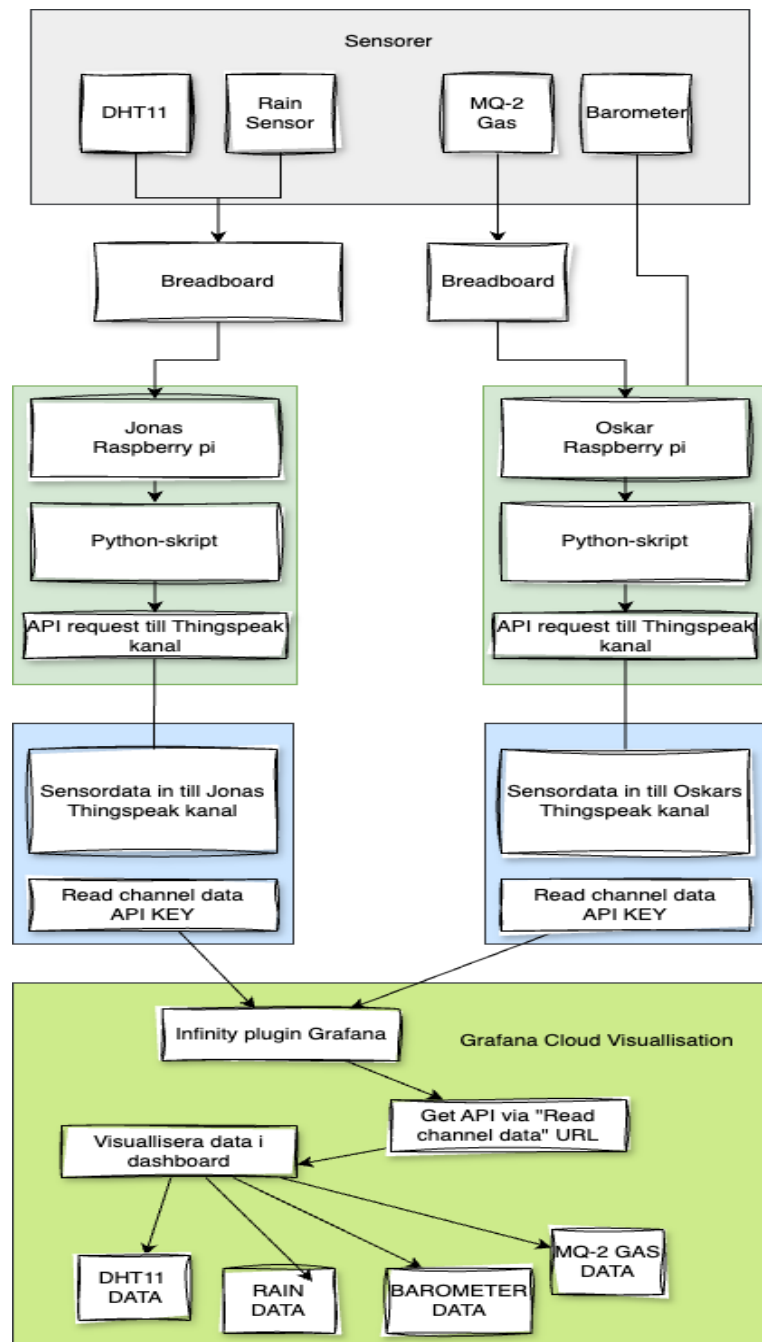


# **Smarta Klimatzoner**

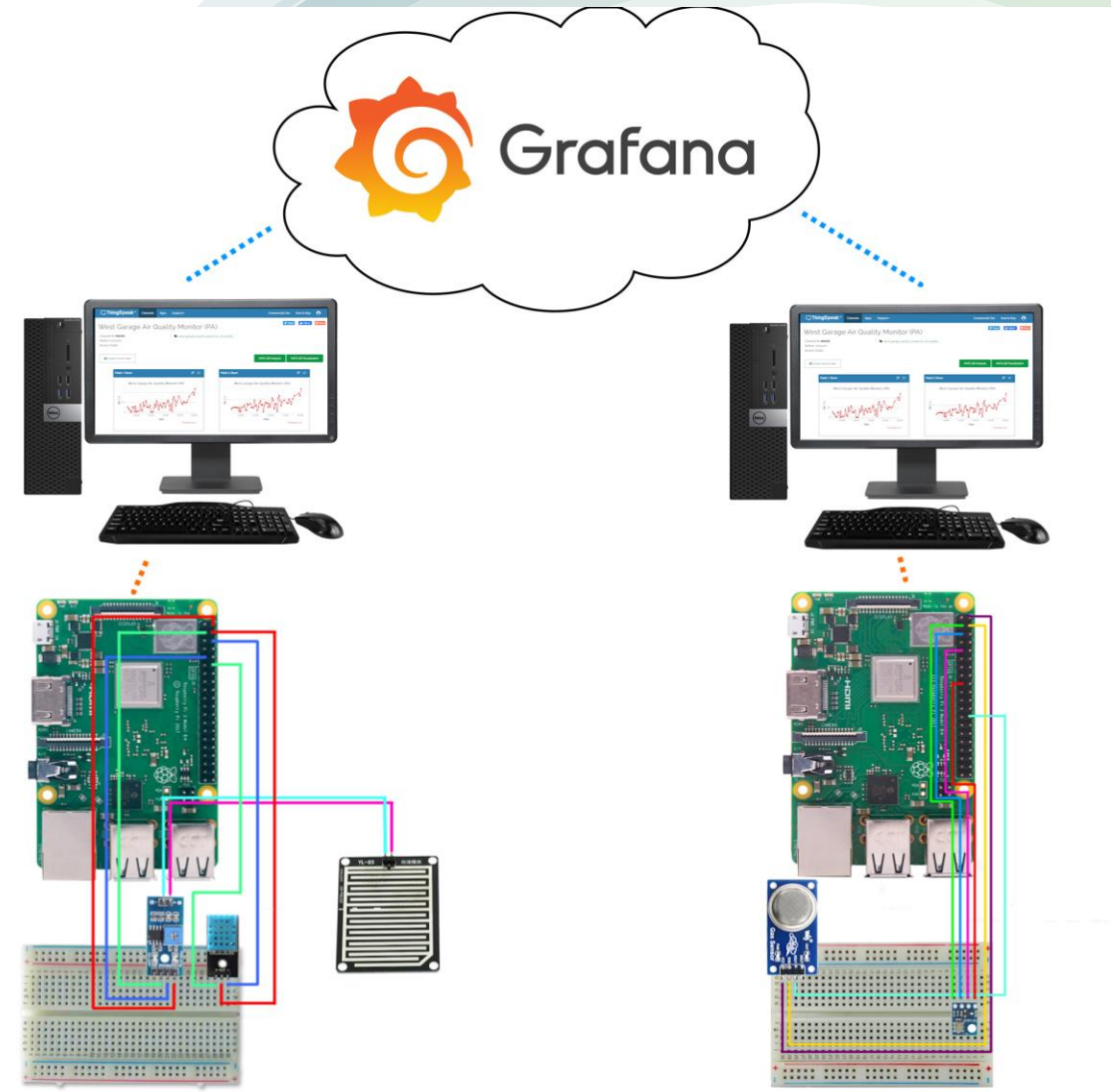
Grupp 4 – Jonas, Oskar, Marcus

# Vad gjorde vi? Hur tänkte vi?

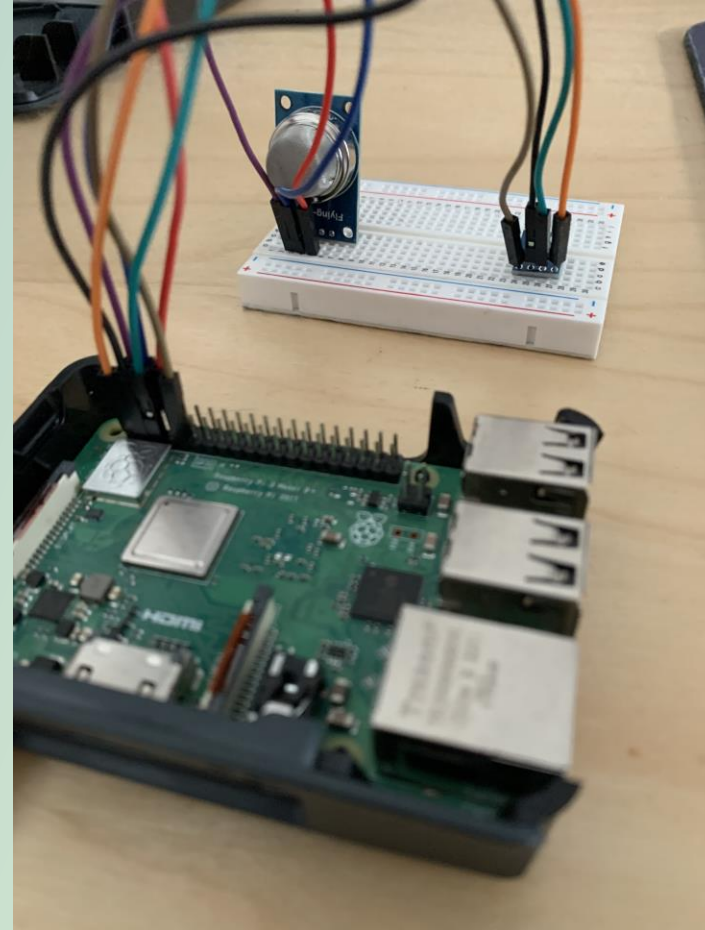
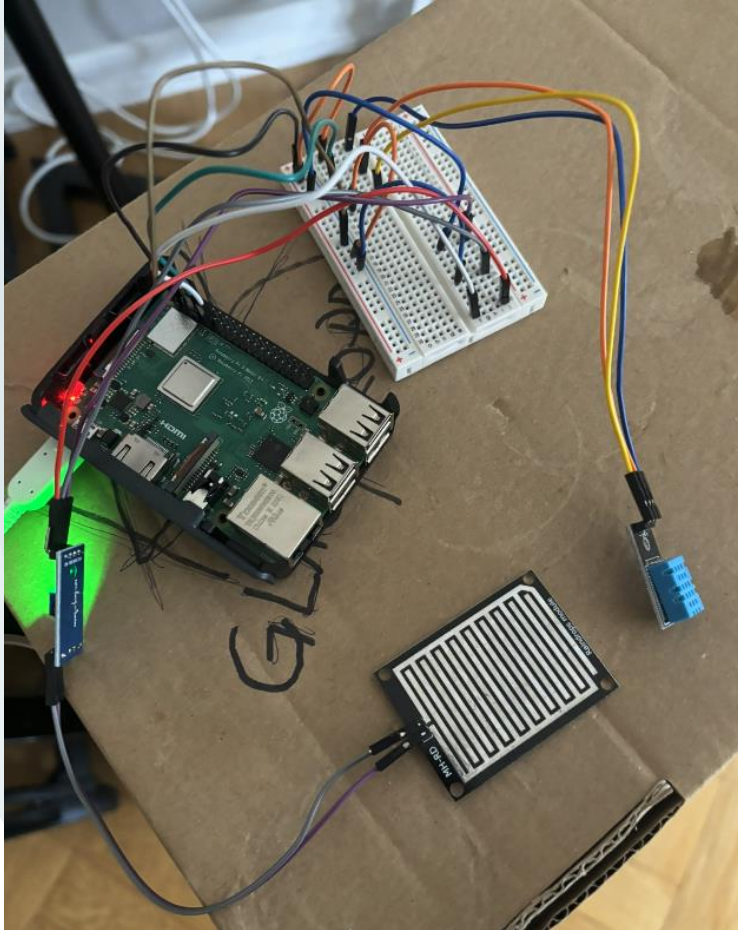




# Flödeschema arbetsväg



# Raspberry pi:s och sensorer



# Python Kod

Kod för API anrop

# API anrop via Python kod till Thingspeak



```
# ThingSpeak API detaljer
api_key = "XXXXXXXXXXXXXXXX"
channel_url = "https://api.thingspeak.com/update"
```

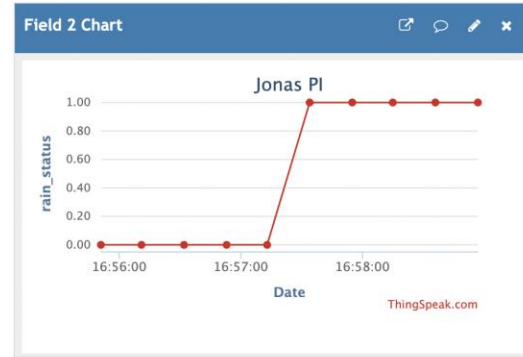
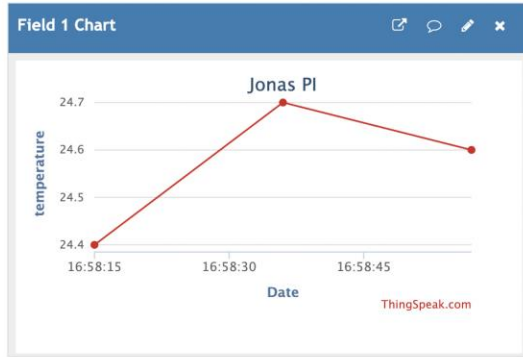
```
# Skicka data till ThingSpeak och verifiera att den kom fram
def send_to_thingspeak(temperature, rain_status):
    payload = {
        "api_key": api_key,
        "field1": temperature, # Temperatur
        "field2": rain_status  # Regnsensorstatus (0 = Torrt, 1 = Regn)
    }

    try:
        response = requests.post(channel_url, params=payload)
        if response.status_code == 200:
            if response.text.strip() == "0":
                print("Fel: ThingSpeak tog inte emot datan.>")
            else:
                print(f"Data skickad till ThingSpeak:
Temp={temperature}°C, Rai>")
        else:
            print(f"Fel vid sändning till ThingSpeak: HTTP
{response.status_cod>")
    except Exception as e:
        print(f"Fel vid HTTP-anrop: {e}")
```



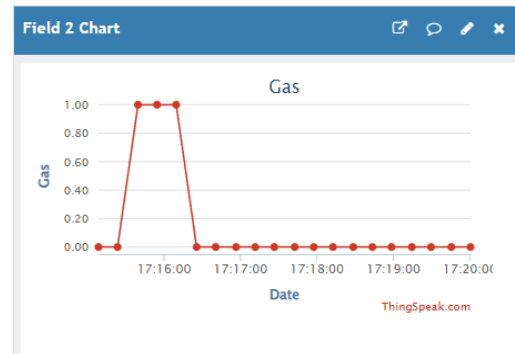
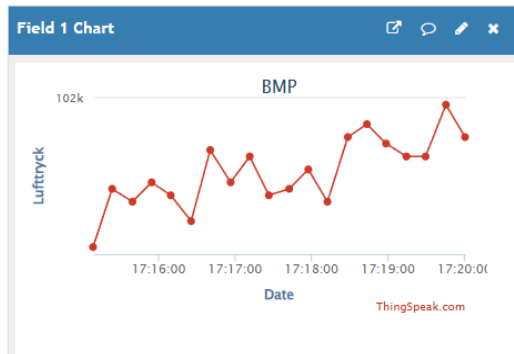
## Channel Stats

Created: 6 days ago  
Last entry: less than a minute ago  
Entries: 873



## Channel Stats

Created: 5 days ago  
Last entry: 13 minutes ago  
Entries: 852



# Thingspeak

- Vi skickade API anrop till två separata Thingspeaks kanaler för att få in data. Försökte först med samma kanal, men det funkade inte
- Använde "Read a channel feed" API strängen från Thingspeak för att läsa av data ifrån våra separata kanaler.

### Read a Channel Feed

```
GET https://api.thingspeak.com/channels/2871702/feeds.json?api_key=9D21WFWF
```

[https://api.thingspeak.com/channels/2871702/feeds.json?api\\_key=9D21WFWF6XNKP4VX&results=2](https://api.thingspeak.com/channels/2871702/feeds.json?api_key=9D21WFWF6XNKP4VX&results=2)

# Koppling mellan Grafana och Thingspeak

## Data source inställningarna i Grafana

The screenshot shows the Grafana configuration interface for a data source named 'yesoreyeram-infinity-datasour'. The 'Query options' section is expanded, showing the following settings:

- Type:** JSON
- Parser:** Backend
- Source:** URL
- Format:** Table
- Method:** GET
- URL:** [https://api.thingspeak.com/channels/2871702/feeds.json?api\\_key=9D21WFWF6XNKP4VX&results=](https://api.thingspeak.com/channels/2871702/feeds.json?api_key=9D21WFWF6XNKP4VX&results=)

The 'Parsing options & Result fields' section is also expanded, showing the following configuration:

- Rows/Root - optional:** `$.feeds[*]`
- Columns - optional:**

Selector	Field	as	Field Name	format as	Time Format (optional)
created_at	as	Datum och tid	format as	Time	Time Format (optional)
field1	as	Temperatur	format as	Number	

JSON filen visar vilken data vi vill läsa

```
{
  "channel": {
    "id": 2871702,
    "name": "Jonas PI",
    "latitude": "0.0",
    "longitude": "0.0",
    "field1": "temperature",
    "field2": "rain_status",
    "created_at": "2025-03-10T14:14:36Z",
    "updated_at": "2025-03-10T14:14:36Z",
    "last_entry_id": 831
  },
  "feeds": [
    {
      "created_at": "2025-03-16T15:42:27Z",
      "entry_id": 830,
      "field1": "23.7",
      "field2": "0"
    },
    {
      "created_at": "2025-03-16T15:42:47Z",
      "entry_id": 831,
      "field1": "23.7",
      "field2": "0"
    }
  ]
}
```



# Grafana visuallisering

