

InsightDB Auto Logger - Portfolio Guide

1. Project Overview

Goal: Continuous logging of system metrics and web visitors with live dashboards.

Tech Stack:

- PostgreSQL (metrics)
- Python: psycpg2, psutil, faker
- Dashboard: DBeaver / Grafana
- Automation: Windows Task Scheduler

Features:

- Logs CPU, RAM, uptime every 60 seconds
- Logs fake web visitors automatically
- Creates tables if missing
- Runs 24×7 in background
- Live dashboard visualization

2. Database Setup

Create Database:

```
CREATE DATABASE metrics;
```

Create Tables:

-- System Metrics

```
CREATE TABLE IF NOT EXISTS system_metrics (  
    id SERIAL PRIMARY KEY,  
    recorded_at TIMESTAMP NOT NULL,  
    cpu_usage NUMERIC(5,2),  
    ram_usage NUMERIC(5,2),  
    uptime BIGINT  
);
```

-- Web Visitors

```
CREATE TABLE IF NOT EXISTS web_visitors (  
    id SERIAL PRIMARY KEY,  
    visited_at TIMESTAMP NOT NULL,  
    ip_address VARCHAR(50),  
    device VARCHAR(500),  
    referrer VARCHAR(200)  
);
```

3. Python Script

File: insightdb_autologger.py

- Logs system metrics + fake visitors every 60 seconds
- Creates tables automatically if not exists
- Trims long strings to avoid DB errors

Run manually:

```
python insightdb_autologger.py
```

Output:

Starting InsightDB Auto Logger - collecting live data every 60 seconds...

[HH:MM:SS] System -> CPU:16.2% RAM:45.1%

4. Automation (Windows Startup)

Task Scheduler Setup:

- Action → Create Task
- General → Run with highest privileges
- Trigger → At log on
- Action → Start program:
 Program: C:\Users\prash\AppData\Local\Microsoft\WindowsApps\python.exe
 Arguments: "C:\users\prash\downloads\db\insightdb_autologger.py"
 Start in: C:\users\prash\downloads\db
- Settings → Allow task on demand, restart if failed

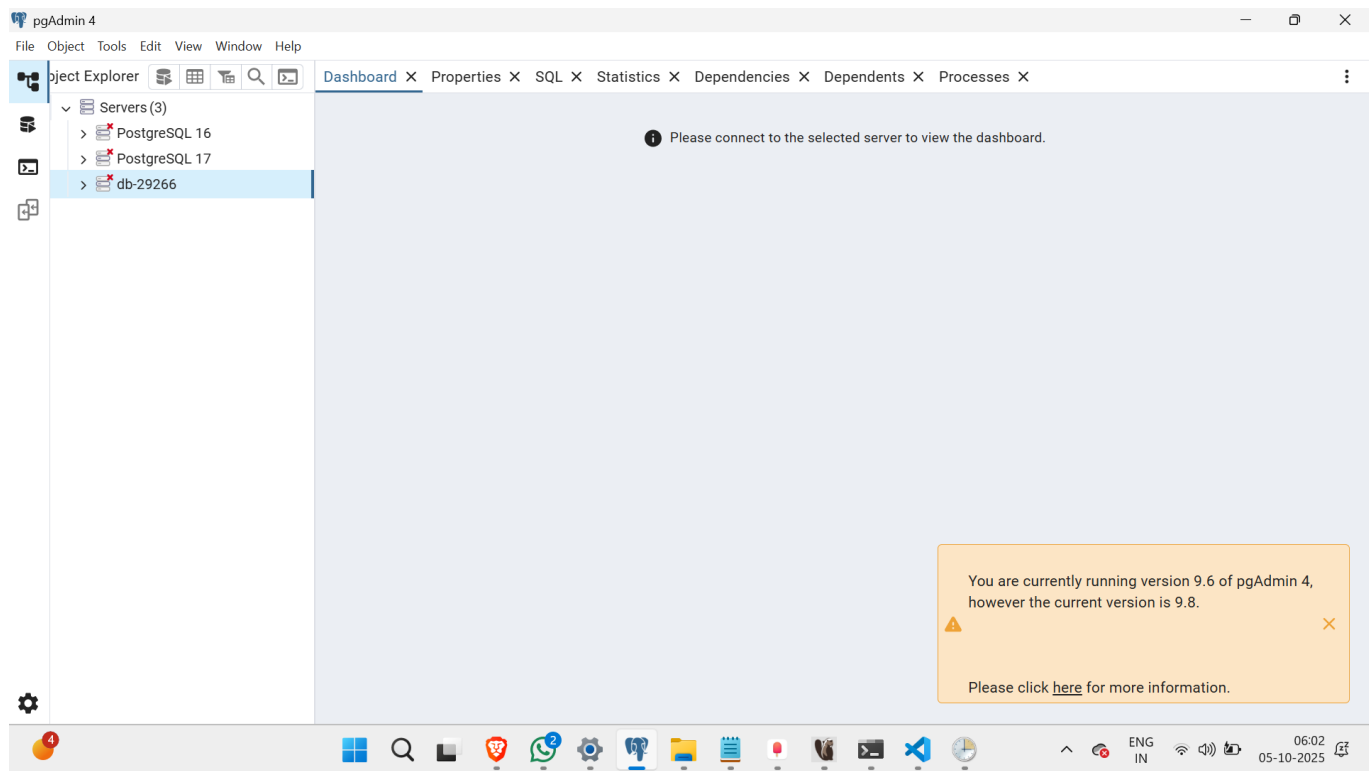
Optional: Use .bat to run hidden & log output:

```
python "C:\users\prash\downloads\db\insightdb_autologger.py"
"C:\users\prash\downloads\db\insightdb.log" 2>&1
```

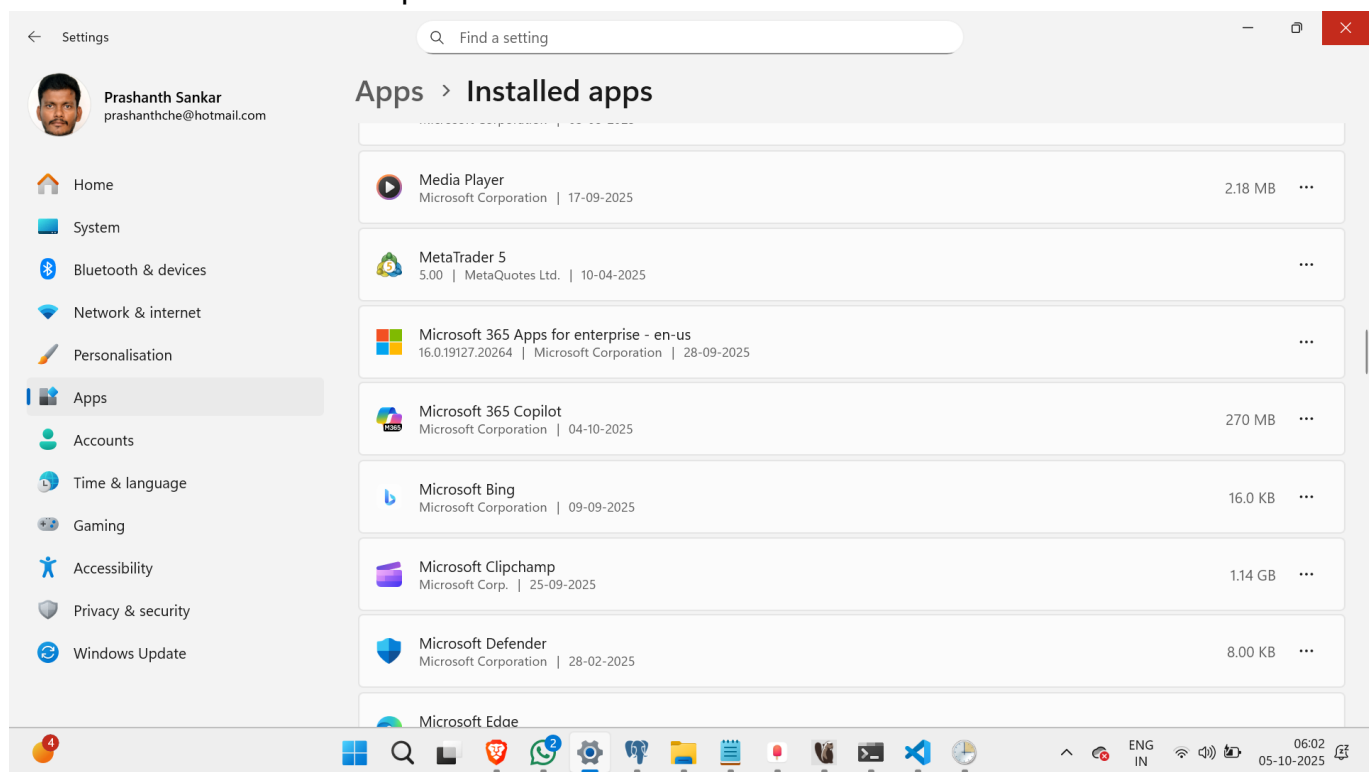
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5. Live Dashboard Screenshots

DBeaver Table Snapshot:



Grafana Dashboard Snapshot:



6. Recruiter Demo (2 Minutes)

1. Show live data in DBeaver or Grafana
2. Highlight continuous logging of CPU, RAM, uptime, visitors
3. Show automation via Task Scheduler
4. Optional: Show insightdb.log → proves 24×7 operation

Placeholders for additional screenshots if needed.