Assignment 8
End to End IoT System

Fall 2024 - Group 27

Leslie Ortega & Jessica Alejandro
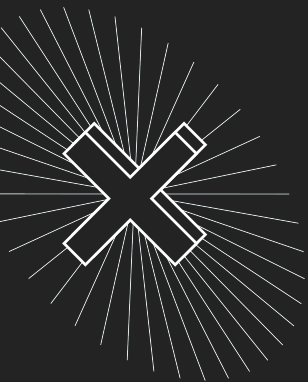
Table of contents

System Architecture
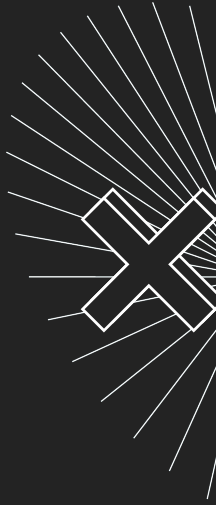
Collections

| Smart Refrigerator 1 | → | Source | → | Database | → | MongoDB |

Smart Refrigerator 2

Smart Dishwasher

Google Cloud VM

TCP Client ← TCP Server
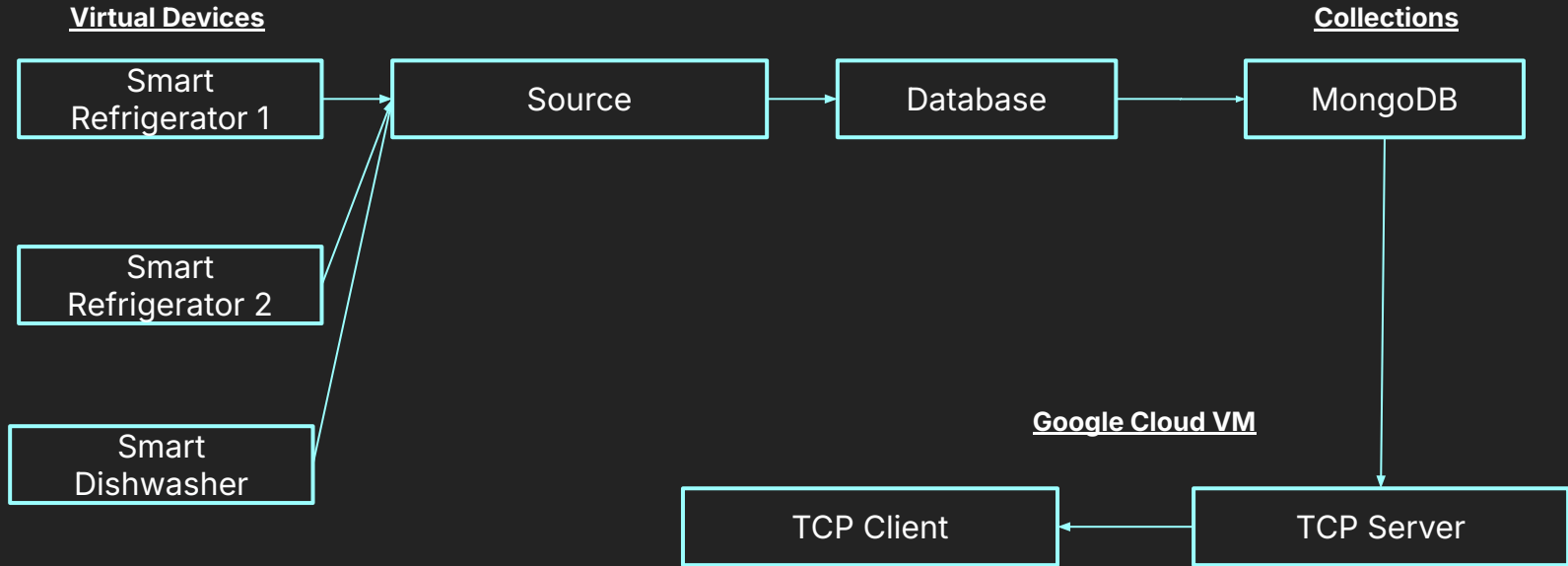
Metadata - Queries

1

What is the average moisture inside my kitchen fridge in the past three hours?

2

What is the average water consumption per cycle in my smart dishwasher?

3

Which device consumed more electricity among my three IoT devices (two refrigerators and a dishwasher)?

➢ Used **datetime** and **payload's topic** name to identify the *board* and corresponding *sensors*

Challenges

PyMongo Connection -
Verifying DB access w/o insertion

Delayed Tables in MongoDB -
Table Appears when it was already deleted in Dataniz

Troubleshooting the best metadata to use as an identifier for collections
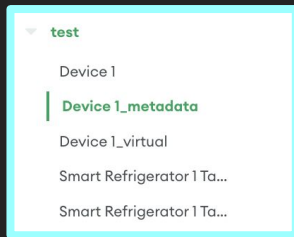
Payload Data could not be moved from subcategory

DataNiz Feedback

1.   Outdated Updates

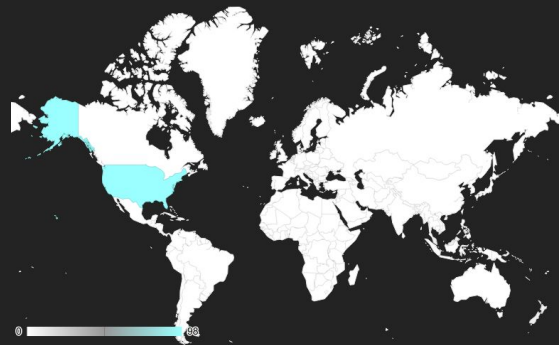**Changes:** Editing of Dataniz features may not reflect on MongoDB immediately

Effect: Adding a table by modifying the data link on DataNiz results in a table that does not disappear from MongoDb

➢ In the images above, the Smart Refrigerator was deleted in Dataniz but is still on MongoDB

2. No Location Feature

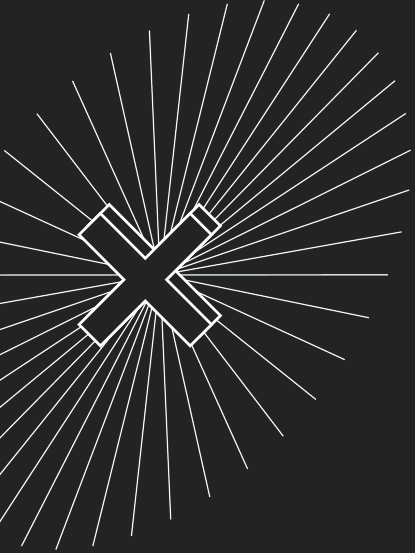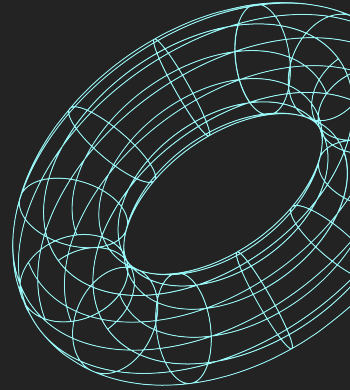**Metadata:**   Must be entered manually, no location detection services

Effect: Must use pyMongo to get datetime or add library for timezone

Thanks!