1. Set up MongoDB

Create a database called “ng-dashboard” or as you like

Create collections as the shown in the picture. Each collection stores data from one sensor.

Import two json files provided in the **test_data** folder into MongoDB using command below

mongoimport --db ng-dashboard --collection 3357.0.TL1 –file test_3357.json

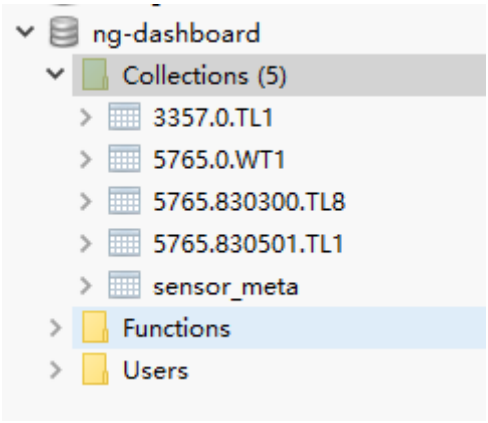

Figure 1. MongoDB Database Organization

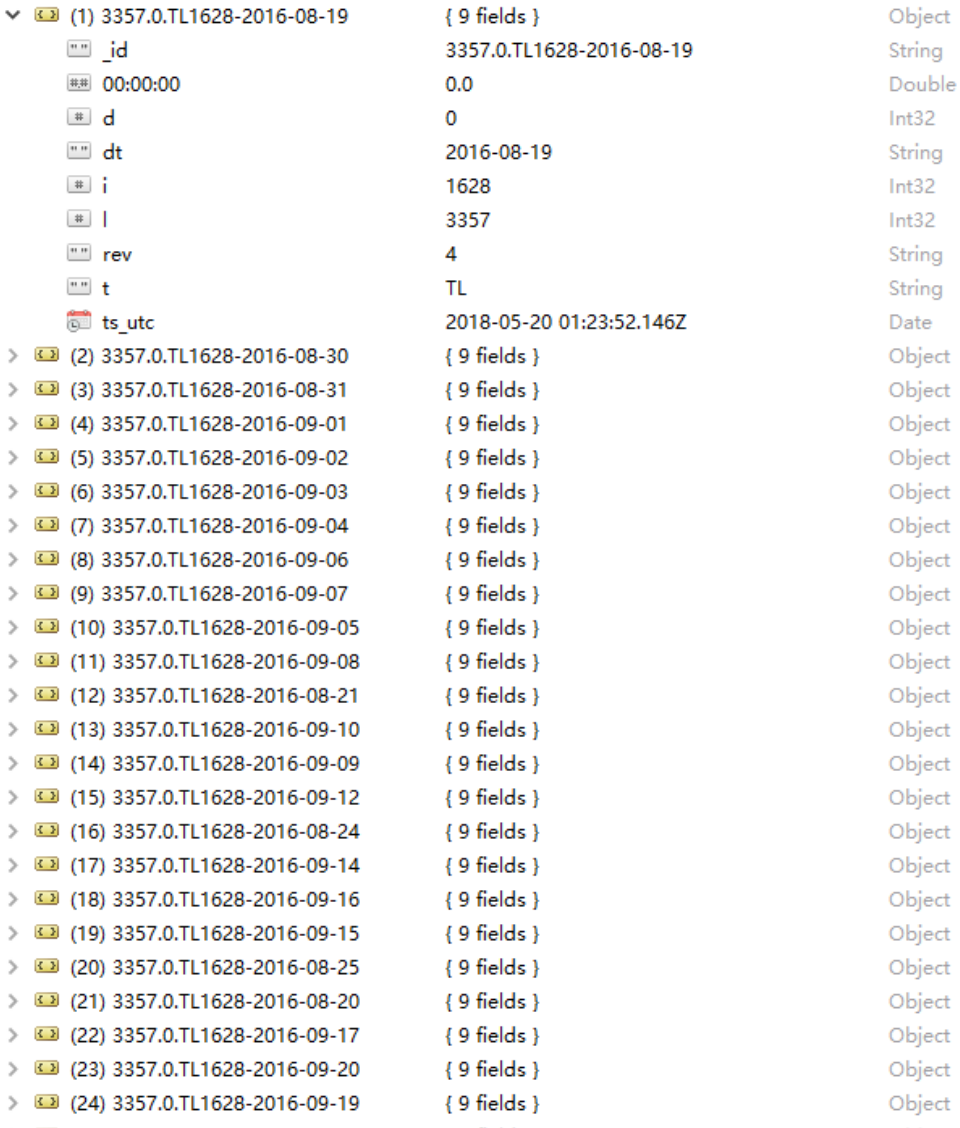

Figure 2. Collection ‘3357.0.TL1’

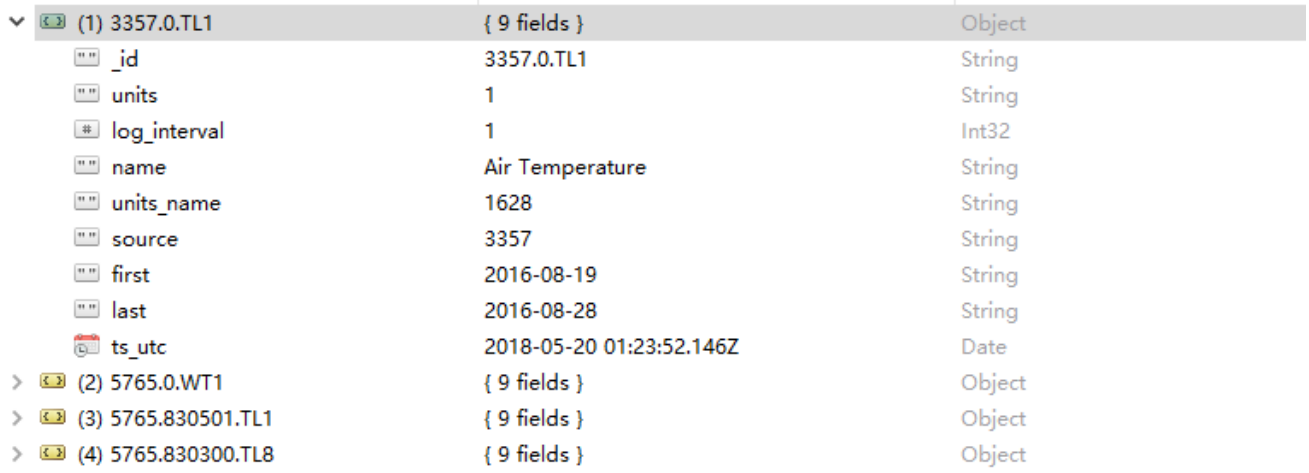

Figure 3. Collection 'sensor_meta'

2. Set up SQL Server

Restore the .bak file provided in the test_data folder.

3. Import the Java Spring file as a Maven project in the Intellij IDEA

4. Configure the 'application.properties' file in the Spring program as your own database user setting

```
spring.data.mongodb.host=localhost
spring.data.mongodb.port=27017
spring.data.mongodb.username=thesis
spring.data.mongodb.password=demo
spring.data.mongodb.database=ng-dashboard

spring.datasource.url=jdbc:sqlserver://localhost;databaseName=4490Z
spring.datasource.username=sa
spring.datasource.password=summer2020
spring.datasource.driverClassName=com.microsoft.sqlserver.jdbc.SQLServerDriver
spring.jpa.show-sql=true
```

5. Run the Maven project

6. Run the Angular program

Make sure you have installed npm, then run command: **npm install -g @angular/cli**

After Angular's CLI has been installed, go to the root directory of 'dashboard-new'. Open the terminal and run command: **npm install** (this will download the required dependencies)

Run '**ng serve**'

Then open 'localhost:4200', the dashboard should now work properly now.