

Task-13 Use case

Indexing various devices in IoT platforms:

- Scenario:- An IoT platform needs to support a wide variety of devices
- Requirement:- efficient data storage and indexing to query by device id location (or) parameter
- Challenge:- Device data structure may differ;
- Goal:- Quick retrieval by common queries

Why a JSON-Based Document Database (MongoDB) fits.

1- Flexible schema

- Device data can vary widely
- MongoDB stores each document as JSON like BSON

• Indexing support

- Can create indexes on device id, location id (or) even nested program like sensor

• Scalability

- IOT platform generate massive, high frequency data which MongoDB can handle via sharding and horizontal sliding

Example JSON document for IoT Device's data:-

```
{ "device id" : "device 123",  
  "deviceType" : "thermostat",  
  "location" : {  
    "location id" : "loc001",  
    "building" : "Building A",  
    "floor" : 3  
  }  
};
```

Hospitalid = 101,
claimdate = '2023-10-01',
Amount = 2000,
Status = 'Submitted'

});

• Read ;

db-claims.find({Policy Number: 'PP123'});

• update :

db-claims.updateOne({

claim id : 1001 } ,

{ \$set : { Status : 'Approved', approval date : '2023-10-10' } }

DELETE,-

db-claims.deleteOne({claim id : 1001});

Result

Thus the miniproject is successfully verified and executed