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BDT Lab Assignment 2

* Problem Statement :

To install & configure MongoDB/ Cassandra/ HBase Hypertable . Create a sample database using NOSQL & implement the CRUD operations

* Objectives :

1) To learn concepts of structured & unstructured data.
2) To learn how to use MongoDB.

* Theory :

Structured V/S Unstructured Data :

- Structured data is highly specific & is stored in a predefined format, where unstructured data is a compilation of many varied types of data that are stored in their native formats.

- Structured data is commonly stored in data warehouses & unstructured data is stored in data lakes.
- Structured data can be used by average business user, but unstructured data requires data science expertise in order in gain accurate business intelligence.

* Companies & development teams of all sizes use MongoDB for a wide variety of reasons:

- Document model
- Fully Scalable
- Deployment options
- Get Started Quickly

* Syntax of CRUD operation queries in MongoDB:

Insert: db.database_name.insertOne({})
Update: db.database_name.updateOne({})
Find: db.database_name.name.find({})
Delete: db.database_name.~~name~~deleteOne({})

* Platform: 64-bit Open Source Linux / Windows.

* Conclusion: Hence, I learned installations & configurat of MongoDB/Cassandra/Hbase/Hypertable also implemented CRUD operations.

* FAQ's

Q1) Create an Emp table & perform the CRUD operations. Write queries for each operations.

Ans Use employee

db

→ db.createCollection('emp')

→ db.employee.InsertOne({name: "Any", age: 19, dept: "HR"})

→ db.employee.UpdateOne({name: "Any"}, {$set: {age: 20}})

→ db.employee.find()

→ db.employee.deleteOne({name: "Any"})

Q2) Explain the application of Mongo DB also give examples of open source database softwares.

Ans Applications:

1) IoT data
2) Mobile Apps
3) Gaming
4) Social Media
5) E-commerce
6) Analytics & reporting.

Example of Open Source DB

1) My SQL
2) Postgre SQL
3) Maria DB

Q3)

Ans
```
db.createCollection("Album");
db.Album.insertOne({
    Type: "Studio",
    Artist: "ABC",
    Title: "HNO",
    Genre: "Rock",
    Release Date: "2022-05-10"
    Tracklist: [{
        Track: 1, Title: "XYZ", Length: "9:11"}
    Cast: ["Fonda", "Jave"]
});
```

1) `db.Album.find({Release Date: {$gt: "2000-01-01"}})`
2) `db.Album.find({Release Date: {$gt: "1999-01-01"}})`
   `{lt: "2000-01-01"}});`
3) `db.Album.deleteOne({Artist: "ABC"});`
4) `db.Album.Update One(`
   `{Type: "Studio"},`
   `{$set: {Title: "New Studio"}})`
   `);`

RP

26/9/23