Day 4 - 24th May 2025

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**Basic Setup & Commands**

1. Installation Steps:
   * Install MongoDB
   * Choose file path
   * Run mongosh
   * Check command: mongod

**Basic Operations**

* Start new database: use DatabaseName
* Clear screen: Ctrl + L
* Next line: Ctrl + Enter
* Show databases: show dbs

**CRUD Operations (Create, Read, Edit, Delete)**

Create Operations

*// Insert Single Document*

db.collection.*insertOne*({

name: "example",

details: {

position: "Developer",

salary: 40000

}

})

*// Insert Multiple Documents*

db.collection.*insertMany*([

{name: "Rahul", details: {...}},

{name: "Nizith", details: {...}}

])

Read Operations

*// Find One Document*

db.collection.*findOne*({name: "Nizith"})

*// Find All Documents*

db.collection.*find*()

*// Find with Nested Fields*

db.collection.*find*({"details.position": "PHP Developer"})

Update Operations

*// Update Single Document*

db.collection.*updateOne*(

{name: "Nizith"},

{$set: {"details.position": "Java Developer"}}

)

*// Update Multiple Documents*

db.collection.*updateMany*(

{"details.position": "PHP Developer"},

{$set: {"details.salary": 60000}}

)

Delete Operations

*// Delete Single Document*

db.collection.*deleteOne*({name: "Nizith"})

*// Delete Multiple Documents*

db.collection.*deleteMany*({"details.position": "PHP Developer"})

**Collections Management**

*// Create Collection*

db.*createCollection*('users', {})

*// Basic Find Operations*

db.users.*find*()

db.users.*find*({})

**Advanced Queries**

Comparison Operators

* Greater than: $gt
* Less than: $lt
* Greater than or equal: $gte
* Less than or equal: $lte
* Equal: $eq
* Not equal: $ne

Query Examples

*// Greater than query*

db.employee.*find*({"details.salary": {$gt: 50000}})

*// Less than query*

db.employee.*find*({"details.salary": {$lt: 50000}})

Projection & Sorting

*// Project specific fields*

db.employee.*find*({}, {name: 1}) *// Show only names*

db.employee.*find*({}, {name: 1, \_id: 0}) *// Show names without IDs*

*// Limit & Skip*

db.employee.*find*().*limit*(2) *// Show first 2 documents*

db.employee.*find*().*skip*(2) *// Skip first 2 documents*

*// Sorting*

db.employee.*find*().*sort*({name: 1}) *// Ascending*

db.employee.*find*().*sort*({name: -1}) *// Descending*

Regular Expressions

*// Case sensitive search*

db.employee.*find*({name: {$regex: "J"}})

*// Case insensitive search*

db.employee.*find*({name: {$regex: "J", $options: "i"}})

Array Operations

*// View as Array*

db.customers.*find*().*toArray*()

*// ForEach Loop*

db.customers.*find*().*forEach*(data => {*print*(data)})