MongoDB Guide - Expanded

=== What is MongoDB? ===

- A NoSQL database storing data in JSON-like format

=== CRUD Operations ===

Create:

```
db.users.insertOne({ name: "Ali", age: 20 })
```

Read:

```
db.users.find({})
```

Update:

```
db.users.updateOne({ name: "Ali" }, { $set: { age: 21 } })
```

Delete:

```
db.users.deleteOne({ name: "Ali" })
```

=== Schema Design ===

- Embedded documents (denormalized)

- Referenced documents (normalized)

=== Indexing ===

- Improves query performance

```
db.collection.createIndex({ name: 1 })
```

=== Aggregation Pipeline ===

```
db.orders.aggregate([

{ $match: { status: "active" } },

{ $group: { _id: "$userId", total: { $sum: "$amount" } } }

])
```

=== Mongoose ===

- ODM for Node.js

Schema Example:

```
const userSchema = new mongoose.Schema({

name: String, email: String, age: Number

});
```

=== Connections ===

```
mongoose.connect("mongodb://localhost:27017/mydb")
```

=== Compass ===

GUI for managing DB

=== Security ===

- Users & roles

- IP whitelisting