

Backend Developer Course Syllabus (7 Days, 2 Hours Daily)

July 2025

Course Overview

This 7-day course introduces backend development with Node.js and MongoDB. Each day includes 1 hour of theory, 1 hour of practicals, and a 5-question MCQ test (14 hours total).

Prerequisites

- Basic JavaScript knowledge.
- Computer with Node.js and MongoDB installed.

Daily Breakdown

Day 1: Backend Basics • **Theory (1 hr):** Server-side concepts, Node.js overview. Node.js Docs

- **Practical (1 hr):** Set up a Node.js server.
- **MCQ Test (5 questions):**
 1. What is backend development? (a) Web design (b) Server-side logic (c) Data visualization (d) None
 2. What is Node.js? (a) CSS framework (b) JavaScript runtime (c) Database (d) None
 3. What runs a backend server? (a) Browser (b) Server (c) Client (d) None
 4. What is a server's role? (a) Display UI (b) Process requests (c) Store styles (d) None
 5. Which tool tests APIs? (a) Photoshop (b) Postman (c) Excel (d) None

Answers: b, b, b, b, b

Day 2: Express.js • **Theory (1 hr):** Express.js framework, routing. Express.js Docs

- **Practical (1 hr):** Build a simple Express server with routes.
- **MCQ Test (5 questions):**
 1. What is Express.js? (a) Database (b) Web framework (c) CSS library (d) None
 2. What is a route? (a) URL path (b) HTML tag (c) JavaScript variable (d) None
 3. What does `app.get()` do? (a) Handles GET requests (b) Deletes data (c) Updates data (d) None
 4. What is middleware? (a) Database (b) Request processor (c) Styling tool (d) None
 5. Which HTTP method retrieves data? (a) POST (b) GET (c) PUT (d) DELETE

Answers: b, a, a, b, b

Day 3: RESTful APIs • **Theory (1 hr):** REST principles, HTTP methods. Coursera: Server-Side Development

- **Practical (1 hr):** Create a REST API endpoint in Express.
- **MCQ Test (5 questions):**
 1. What does REST stand for? (a) Representational State Transfer (b) Remote System Test (c) Real-Time System (d) None
 2. Which HTTP method updates data? (a) GET (b) POST (c) PUT (d) DELETE

3. What is an API endpoint? (a) Database (b) URL path (c) CSS rule (d) None
4. What format is used in REST APIs? (a) HTML (b) JSON (c) CSS (d) None
5. What does a status code indicate? (a) Data type (b) Request success (c) File size (d) None

Answers: a, c, b, b, b

Day 4: MongoDB Basics • **Theory (1 hr):** NoSQL databases, MongoDB schema. MongoDB Docs

- **Practical (1 hr):** Connect Express to MongoDB, store data.
- **MCQ Test (5 questions):**
 1. What is MongoDB? (a) SQL database (b) NoSQL database (c) CSS framework (d) None
 2. What is a MongoDB collection? (a) Table equivalent (b) File storage (c) Code editor (d) None
 3. What stores data in MongoDB? (a) Documents (b) Rows (c) Columns (d) None
 4. Which library connects Node.js to MongoDB? (a) Mongoose (b) Pandas (c) Matplotlib (d) None
 5. What is a MongoDB schema? (a) Fixed structure (b) Flexible structure (c) CSS rule (d) None

Answers: b, a, a, a, b

Day 5: CRUD Operations • **Theory (1 hr):** Create, Read, Update, Delete operations. Geeks-forGeeks: MongoDB CRUD

- **Practical (1 hr):** Implement CRUD operations in an API.
- **MCQ Test (5 questions):**
 1. What does CRUD stand for? (a) Create, Read, Update, Delete (b) Code, Run, Update, Deploy (c) Create, Render, Update, Design (d) None
 2. Which operation retrieves data? (a) Create (b) Read (c) Update (d) Delete
 3. What HTTP method maps to Create? (a) GET (b) POST (c) PUT (d) DELETE
 4. What does Update modify? (a) Existing data (b) New data (c) Deleted data (d) None
 5. Which MongoDB method deletes data? (a) find() (b) remove() (c) update() (d) insert()

Answers: a, b, b, a, b

Day 6: Authentication • **Theory (1 hr):** JWT, user authentication basics. Coursera: Web Security

- **Practical (1 hr):** Add JWT authentication to an API.
- **MCQ Test (5 questions):**
 1. What is JWT? (a) JavaScript Web Token (b) JSON Web Token (c) Java Web Token (d) None
 2. What does authentication verify? (a) Data size (b) User identity (c) File type (d) None
 3. What is a token? (a) Secure string (b) HTML tag (c) CSS rule (d) None
 4. Where is a JWT stored? (a) Database (b) Client-side (c) Server-side (d) None
 5. Why use authentication? (a) Improve speed (b) Secure access (c) Change style (d) None

Answers: b, b, a, b, b

Day 7: Capstone Project • **Theory (1 hr):** API deployment, portfolio basics. Coursera: Career Development

- **Practical (1 hr):** Build a complete backend API (e.g., to-do list).
- **MCQ Test (5 questions):**
 1. What is API deployment? (a) Styling API (b) Hosting API (c) Deleting API (d) None
 2. Why build a portfolio? (a) Show skills (b) Store data (c) Change style (d) None
 3. Which platform hosts APIs? (a) Heroku (b) Photoshop (c) Excel (d) None
 4. What should an API project include? (a) Endpoints (b) HTML tags (c) CSS rules (d) None
 5. Why test APIs? (a) Ensure functionality (b) Change style (c) Reduce data (d) None

Answers: b, a, a, a, a

Resources

- [Node.js](#)
- [MongoDB](#)
- [Postman](#)