



Project No.	Date	Doc. No.	Serial No	Rev.	Proj. dep.
12046	2025	EOTSS12046	12046/2025	00	Com & Network

EOTSS Doc. CODE :

EOTSS/Electronic/12046-NC/2025



المكتب الهندسي لخدمات التكنولوجيا والبرمجيات

Engineering office for Technology and Software Services

🔴 Title: *Node.js Development with Express, Async Programming, and Databases* ✅ ⭐ Intermediate Level



Code: 12046-NC

Main Branch: United building – E Shams –Front NBE
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Description

Designed for developers with basic Node.js knowledge. Learn to build RESTful APIs using Express, handle async patterns with callbacks, promises, and async/await, integrate databases, and manage environment configuration.

Objectives

- ✓ Build RESTful APIs with Express.js
- ✓ Understand routing and middleware
- ✓ Handle asynchronous code with callbacks, promises, and async/await
- ✓ Connect Node.js apps to MongoDB or SQL
- ✓ Serve static files
- ✓ Manage environment variables

Modules

Module 1: Express.js Framework

- Installing Express
- Routing basics
- Middleware concepts
- Error handling
- Serving static files
- Creating RESTful APIs

Module 2: Asynchronous Programming

- Callbacks
- Promises

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- Async/Await

- Handling errors

Module 3: Working with Databases

- Introduction to MongoDB / SQL
- Connecting with Mongoose or Knex
- CRUD operations
- Modeling data

Module 4: Environment Variables

- Using .env files
- Securing configuration data

Intermediate Project

- Build a CRUD REST API with Express
- Connect to a database
- Use environment variables for configuration

✓ Outcomes

- ✓ Confidently create RESTful APIs
- ✓ Master Express.js routing and middleware
- ✓ Handle async patterns robustly
- ✓ Integrate databases securely
- ✓ Manage environment configurations

✓ ★ Intermediate Learning Outcomes (Summary)

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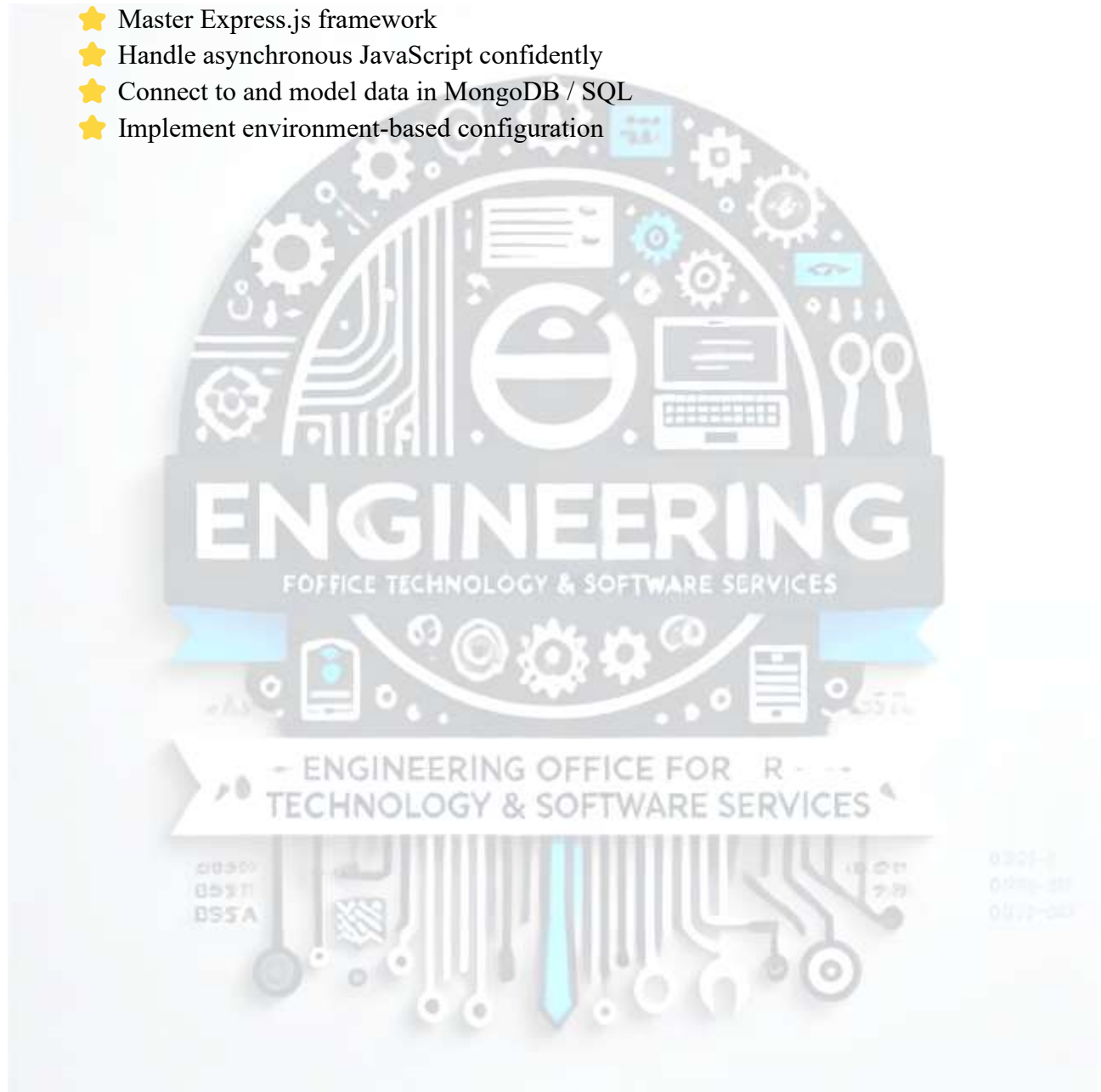
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المكتب الهندسي لخدمات التكنولوجيا والبرمجيات

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- ★ Build scalable RESTful APIs
- ★ Master Express.js framework
- ★ Handle asynchronous JavaScript confidently
- ★ Connect to and model data in MongoDB / SQL
- ★ Implement environment-based configuration



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