



Project No.  
12047

Date  
2025

Doc. No.  
EOTSS12047

Serial No  
12047/2025

Rev.  
00

Proj. dep.  
Com &  
Network

EOTSS Doc. CODE :

EOTSS/Electronic/12047-NC/2025



المكتب الهندسي لخدمات التكنولوجيا والبرمجيات

Engineering office for Technology and Software Services

📌 Title: *Advanced Node.js: Security, Testing, and Deployment*



**Advanced Level**



**Code:12047-NC**

Main Branch: United building – E Shams –Front NBE  
, El Siouf \_Alexandria  
Tel: 01102060500-01144470856



الفرع الرئيسي : عمارات المتحدة – عمارة عين شمس – امام البنك  
الاهلي – السيوف- الاسكندرية  
تليفون: 01102060500 - 01144470856

E-mail. [adelramadan@eotss-academy.com](mailto:adelramadan@eotss-academy.com)  
[info@eotss-academy.com](mailto:info@eotss-academy.com)





|             |      |            |            |      |               |
|-------------|------|------------|------------|------|---------------|
| Project No. | Date | Doc. No.   | Serial No  | Rev. | Proj. dep.    |
| 12047       | 2025 | EOTSS12047 | 12047/2025 | 00   | Com & Network |

EOTSS Doc. CODE :

EOTSS/Electronic/12047-NC/2025



المكتب الهندسي لخدمات التكنولوجيا والبرمجيات

Engineering office for Technology and Software Services

## Description

For developers ready to master production-grade Node.js applications. Learn secure authentication, testing strategies, and deployment workflows.

## Objectives

- ✓ Implement secure user authentication with JWT
- ✓ Hash and store passwords securely
- ✓ Write unit and integration tests
- ✓ Deploy Node.js applications to the cloud
- ✓ Use process managers for production

## Modules

### Module 8: Authentication & Security

- Password hashing (bcrypt)
- JWT (JSON Web Tokens)
- Environment variables (.env)
- Basic security practices

### Module 9: Testing Node.js Applications

- Writing unit tests with Mocha/Chai or Jest
- Testing routes and controllers
- Mocking dependencies

### Module 10: Deployment

- Preparing apps for production
- Using process managers (PM2)

Main Branch: United building – E Shams –Front NBE  
, El Siouf \_Alexandria

Tel: 01102060500-01144470856



الفرع الرئيسي : عمارات المتحدة – عمارة عين شمس – امام البنك  
الاھلي – السيوف- الاسكندرية

تليفون: 01102060500 - 01144470856

E-mail. [adelramadan@eotss-academy.com](mailto:adelramadan@eotss-academy.com)  
[info@eotss-academy.com](mailto:info@eotss-academy.com)



|             |      |            |            |      |               |
|-------------|------|------------|------------|------|---------------|
| Project No. | Date | Doc. No.   | Serial No  | Rev. | Proj. dep.    |
| 12047       | 2025 | EOTSS12047 | 12047/2025 | 00   | Com & Network |

**EOTSS Doc. CODE :**

**EOTSS/Electronic/12047-NC/2025**



المعهد الهندسي لخدمات التكنولوجيا والبرمجيات

**Engineering office for Technology and Software Services**

- Deploying to cloud (Heroku, AWS, DigitalOcean)
- Environment configuration
- Final Capstone Project
  - Build a complete REST API with Express
  - Connect to a database
  - Include authentication and security
  - Deploy to the cloud



## What You Will Learn (All Levels)

- ★ Core Node.js concepts
- ★ Building REST APIs
- ★ Asynchronous programming mastery
- ★ Express.js for rapid development
- ★ Database integration
- ★ Authentication and security best practices
- ★ Testing strategies
- ★ Deployment workflows



## Target Audience

- ✓ Beginners in backend development
- ✓ Frontend developers going full-stack
- ✓ Bootcamp students
- ✓ Anyone curious about server-side JavaScript



## Materials Needed

Main Branch: United building – E Shams –Front NBE  
El Siouf \_Alexandria

Tel: 01102060500-01144470856



الفرع الرئيسي : عمارات المتحدة – عمارة عين شمس – امام البنك  
الاھلي – السيوف- الاسكندرية

تليفون: 01102060500 - 01144470856

E-mail. [adelramadan@eotss-academy.com](mailto:adelramadan@eotss-academy.com)  
[info@eotss-academy.com](mailto:info@eotss-academy.com)



|             |      |            |            |      |               |
|-------------|------|------------|------------|------|---------------|
| Project No. | Date | Doc. No.   | Serial No  | Rev. | Proj. dep.    |
| 12047       | 2025 | EOTSS12047 | 12047/2025 | 00   | Com & Network |

EOTSS Doc. CODE :

EOTSS/Electronic/12047-NC/2025



المعهد الهندسي لخدمات التكنولوجيا والبرمجيات

Engineering office for Technology and Software Services

- ✓ Computer (Windows, macOS, or Linux)
- ✓ Code editor (VS Code recommended)
- ✓ Node.js installed
- ✓ Internet connection

### ★ Instruction Methods

- ✓ Video lectures / presentations
- ✓ Live coding demos
- ✓ Hands-on exercises
- ✓ Assignments and quizzes
- ✓ Final project with feedback

### ★ Time Frame

- ✓ Beginner: 2–3 weeks
- ✓ Intermediate: 2–3 weeks
- ✓ Advanced: 2–3 weeks
- ✓ ~4–6 hours/week recommended

### ★ Course Format

- ✓ Online or in-person
- ✓ Modular with recorded lectures + live Q&A
- ✓ Downloadable code examples
- ✓ Project-based learning

Main Branch: United building – E Shams –Front NBE  
, El Siouf \_Alexandria

Tel: 01102060500-01144470856



الفرع الرئيسي: عمارات المتحدة – عمارة عين شمس – امام البنك  
الاھلي – السيوف- الاسكندرية

تليفون: 01102060500 - 01144470856

E-mail: [adelramadan@eotss-academy.com](mailto:adelramadan@eotss-academy.com)  
[info@eotss-academy.com](mailto:info@eotss-academy.com)