

Node JS Course Syllabus

Section 1: Getting Started with Node Js

- WelcomePreview
- What is NodePreview
- Node ArchitecturePreview
- How Node WorksPreview
- Installing NodePreview
- Your First Node Program

Section 2: Understanding Node Module System

- Introduction
- Creating a Module
- Loading a Module
- Modules and modularity
- Global Object
- OS Module
- Path Module
- File System Module
- Events Module
- HTTP Module



Section 3: Node Package Manager

- Introduction to NPM
- Installing a Node Package
- NPM Packages and Source Control
- Semantic Versioning
- Registry Info for a Package
- How to install specific version of the package
- How to update Local Packages
- Uninstall the packages
- DevDependencies
- Publishing Package

Section 4: Asynchronous Programming

- What is Asynchronous Programming in JavaScript?
- Synchronous vs Asynchronous
- JavaScript EventLoop
- Callbacks
- Callback Hell

- Promises in JavaScript
- Promise Chaining
- Async Await

Section 5: Rest API & HTTP

- What is HTTP
- Understand how HTTP works?
- List of HTTP response codes
- HTTP Module in Node
- HTTP Methods - GET, POST, PUT & DELETE
- Processing Form Data
- Sending response back to Server

Section 6: Understanding Express JS

- What is Express JS?
- Installing Express JS
- Creating HTTP Server
- Nodemon
- Environment Variables
- Routing
- Route Parameters
- Handling Multiple Routes
- Input Validation
- Handling HTTP Method - Get, Post, Put & Delete using Express

Section 7: MongoDB & Mongoose

- What is MongoDB
- MongoDB Advantages
- Installing MongoDB
- Mongoose ODM
- Schemas
- Models
- Documents
- Saving a Document
- Querying Documents
- Logical & Comparison Query Operators
- Regular Expressions
- Counting
- Pagination
- CRUD Operations in MongoDB using Mongoose and Express

Section 8: Data Validation in MongoDB

- Understanding Validation in MongoDB
- Built-in Validators
- Custom Validators
- Validation Errors

Section 9: Authentication and Authorization

- Introduction
- User Model
- User Registration
- Hashing Passwords
- Authenticating Users
- JSON Web Token
- Generating Authentication Tokens
- Setting Response Headers
- Auth Protect Middleware
- Protecting Routes
- Role-based Authorization

Section 10: Handling Errors

- Introduction
- Express Async Errors
- Logging Errors

Section 11: Deployment

- Preparing the App for Production
- Adding the Code to a Git Repository
- Setting Environment Variables
- MongoDB in the Cloud