Trivera Technologies
IT Training ● Coaching ● Courseware
Collaborate. Educate. Accelerate!

TriveraTech ®
TECHNOLOGY TRAINING

Introduction to Node.js

Explore Server-Side Coding through Node.js, RESTify, Development, Working with BootStrap, Using Data Storage Engines & More

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Course Snapshot

- **Course: TT4153: Introduction to Node.js**
- **Duration**: 3 days
- **Audience & Skill-Level**: This course is for experienced web developers experienced working HTML5, CSS3 and JavaScript.
- **Hands-on Learning:** This course is approximately **50% hands-on**, combining expert lecture, real-world demonstrations and group discussions with machine-based practical labs and exercises. Student machines are required.
- **Delivery Options**: This course is available for **onsite private classroom presentation**, **live online virtual presentation**, or can be presented in a **flexible blended learning format** for combined onsite and remote attendees. Please also ask about our **Self-Paced / Video / QuickSkills or Mini-Camp Flex Hours / Short Course** options.
- **Public Schedule**: This course has active dates on our live-online open enrollment **Public Schedule**.
- **Customizable**: This course agenda, topics and labs can be further adjusted to target your specific training skills objectives, tools and learning goals. Please inquire for details.

Overview

Node.js is a server-side JavaScript platform using an event-driven, non-blocking I/O model allowing users to build fast and scalable data-intensive applications running in real time.

Introduction to Node.js is a fast-paced hands-on jumpstart right to the core skills required to developing web applications with Node.js. Participants will progress from a rudimentary knowledge of JavaScript and server-side development to being able to create, maintain and test their own Node.js applications. Students will explore the importance of transitioning to functions that return Promise objects, and the difference between fs, fs/promises and fs-extra. Students will also how to use the HTTP Server and Client objects, and data storage with both SQL and MongoDB databases.

Learning Objectives

This skills-focused course is approximately 50% hands-on. Our engaging instructors and mentors are highly experienced practitioners who bring years of current "on-the-job" experience into every classroom.

Working in a hands-on learning environment, guided by our expert team, attendees will learn to:
- Learn server-side JavaScript coding through Node.js
- Explore the latest JavaScript features, and ECMAScript modules
- Walk through different stages of developing robust applications using Node.js
- Install and use Node.js for development
- Use the Express application framework
- Work with REST service development using the Restify framework
- Use data storage engines such as MySQL, SQLITE3, and MongoDB

Audience & Pre-Requisites

Incoming attendees are required to have current, hands-on experience in developing basic web applications. Student should have some experience with HTML and CSS and be well versed in JavaScript. Experience with coding for the server side would be helpful. Some general database knowledge would also be helpful.

Take Before: Attendees should have experience with the topics in the following courses, or should have recently attended these as a pre-requisite:
- Introduction to HTML5, CSS3 and JavaScript
- Introduction to JavaScript

Take After: Our core training courses provide students with a solid foundation for continued learning based on role, goals, or their areas of specialty. Our web developer learning paths offer a wide variety of continued learning paths such as:

- TT8325-NJS Securing Node.js Web Applications
- React or Angular training to complete the front end of a project
- Node.js Microservices
- Please contact us for recommended next steps tailored to your longer-term education, project, role or development objectives.

Enhanced Learning Services: Please also ask about our **Pre-Training Class OnRamp & Prep / Primer** offerings, **Skills Gap Assessment Services**, **Case Studies**, **Knowledge Check Quizzes**, **Skills Immersion Programs & Camps**, **Collaborative Mentoring Services** and **Extended Learning Support** & **Post Training** services.

Course Topics / Agenda

Please note that this list of topics is based on our standard course offering, evolved from typical industry uses and trends. We will work with you to tune this course and level of coverage to target the skills you need most. Course agenda, topics and labs are subject to adjust during live delivery in response to student skill levels and interests.

1. Overview of Node.js
- The capabilities of Node.js
- Why should you use Node.js?
- The Node.js event-driven architecture
- Embracing advances in the JavaScript language
- Developing microservices or maxiservices with Node.js

2. Setting Up Node.js
- System requirements
- Installing Node.js using package managers
- Installing from the source on POSIX-like systems
- Installing multiple Node.js instances with nvm
- Requirements for installing native code modules
- Choosing Node.js versions to use and the version policy
- Choosing editors and debuggers for Node.js
- Running and testing commands
- Advancing Node.js with ECMAScript 2015, 2016, 2017, and beyond
- Using Babel to use experimental JavaScript features

3. Exploring Node.js Modules
- Defining a Node.js module
- Finding and loading modules using require and import
- Using npm – the Node.js package management system
- The Yarn package management system

4. HTTP Servers and Clients
- Sending and receiving events with EventEmitter
- Understanding HTTP server applications
- HTTP Sniffer – listening to the HTTP conversation
- Web application frameworks
- Getting started with Express
- Creating an Express application to compute Fibonacci numbers
- Making HTTPClient requests
- Calling a REST backend service from an Express application

5. Your First Express Application
- Exploring Promises and async functions in Express router functions
- Architecting an Express application in the MVC paradigm
- Creating the Notes application

- Theming your Express application
- Scaling up – running multiple Notes instances

6. Implementing the Mobile-First Paradigm
- Understanding the problem – the Notes app isn't mobile friendly
- Learning the mobile-first paradigm theory
- Using Twitter Bootstrap on the Notes application
- Flexbox and CSS Grids
- Mobile-first design for the Notes application
- Using third-party custom Bootstrap themes

7. Data Storage and Retrieval
- Remembering that data storage requires asynchronous code
- Logging and capturing uncaught errors
- Storing notes in a filesystem
- Storing notes with the LevelDB datastore
- Storing notes in SQL with SQLite3
- Storing notes the ORM way with Sequelize
- Storing notes in MongoDB

Student Materials: Each participant will receive a **Student Guide** with course notes, code samples, software tutorials, step-by-step written lab instructions, diagrams and related reference materials and resource links. Students will also receive the project files (or code, if applicable) and solutions required for the hands-on work.

**Node.js
Training Series**

Trivera Technologies

Collaborative IT Training, Coaching & Skills Development Solutions
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Hands-On Setup Made Simple! We offer several flexible student machine setup options including **guided manual set up** for simple installation directly on student machines, or 'easy-access' **cloud based / remote hosted lab solutions** where students can log in to a complete separate lab environment minus any installations. Our dedicated tech team will work with you to ensure your environment is accessible, fully-tested and verified as ready to go well in advance of the course start date, ensuring a smooth start to class and effective learning experience for all participants. Please inquire for details and options.

For More Information

All courses can be presented **onsite** or **online,** or in a **combined / flex / blended learning format**, tailored to target your specific audience, needs and learning goals. We also offer focused, flexible **short courses, self-paced learning** options, **recorded sessions** and more. We train beginner to advanced skills in all areas we cover, and offer **New Hire / Cohort Training**, **Boot Camps**, **Skills Immersion Programs**, **Reskilling Programs**, **Skills Migration & Transition Programs**, and more. We collaborate with you to ensure all courses are truly targeted to meet your specific needs and learning skills, maximizing your valuable training time, as well as your important budget.

Please also visit our extensive **Public Training Schedule** for training for smaller groups or individuals. Please contact us for course details, **Corporate Rates** and **Special Discount Offers**.

For more information about our dedicated training services, collaborative coaching services, courseware licensing and development services, public course schedule, training management services, partner programs, or to see our complete list of course offerings and special offers please visit us at **www.triveratech.com**, email **Info@triveratech.com** or call us toll free at **844-475-4559.** Our pricing and services are always satisfaction guaranteed.

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