Building Web Applications with

node js **+** express.js

Web Application Development using Node.js and Express 4.0

28th and 29th August 2017 - Petaling Jaya

SBL Claimable

HRDF MALAYSIA

Introduction

Node.js is a simple and powerful tool for backend JavaScript development. It is a platform for easily building fast, scalable network applications. Learn how to use the event-driven, non-blocking I/O model to build data-intensive real-time applications that run across distributed devices.

With Node.js, you can build applications that run on your laptop or even the cloud. Learn Node.js and start creating your own JavaScript applications in this training course. Node.js has an edge over other applications because of its ability to gather data from different sources, consolidate it and push it to many clients in real-time.

Learning Outcomes

On completion of this course, students will be able to:

- Understand why server-side JavaScript is useful
- Explain how Node.js is architected to allow high scalability with asynchronous code
- Automate tasks with Gulp
- Build an HTTP server using the core modules in Node.js
- Use stream I/O to efficiently serve the web pages
- Test the reliability of the application with unit tests
- Convert the application to an MVC framework using Express

Who should attend

This course is intended for Web Developers, Web Designers, Project Managers, Students or Entrepreneurs who want to build their own applications will benefit from this course.

Event Details

DATE
28th & 29th August 2017

TIME
9.00 am to 5.00 pm

VENUE
Axsel Training Centre
No.19, First Floor,
Jalan 1/21, Seksyen 1,
46000 Petaling Jaya,
Selangor D.E.

FEE:
PROMO: RM 1,500.00 pax (First 10 pax only)
Individual: RM 2,000.00 pax
Early Bird: RM 1,650.00 pax
Group : RM 1,500.00 pax

This program is SBL Claimable (include morning & afternoon tea break, lunch, notes, certificate of attendance and 6% GST)

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COURSE CONTENTS

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Day 1

1. Intro to Node.js
- RAM vs. I/O latency
- Blocking vs. Non-Blocking
- Event-driven Programming
- Event Loop
- Blocking The Event Loop
- Node.js Philosophy

2. Node.js Platform Setup
- Download and Install
- Node REPL
- Using Node.js to execute scripts
- First Hello World

3. Modules and npm
- Anatomy of a module
- The Node Package Manager
- Private code
- Accessing and using modules
- npm commands
- Creating a project
- package.json – Configuration file
- Global vs local package installation
- Automating tasks with Gulp

4. The Callback Pattern
- What are callbacks
- Callback-last
- Error-first

5. Events
- When to use Event Emitters
- Binding Functions to Events
- Event Requests
- Event Listening

6. Error Handling
- Callbacks: Error-first
- Errors in Event Emitters
- Uncaught Exceptions
- Using Domains

7. File System
- Synchronous vs Asynchronous I/O
- Path and directory operations
- ___dirname and ___filename
- Asynchronous file reads and writes

8. Buffers
- Why Buffers exist
- Creating Buffers
- Reading and Writing Buffers
- Manipulating Buffers
- Using buffers for binary data

- Flowing vs. non-flowing streams
- Streaming I/O from files and other sources
- Processing streams asynchronously
- Configuring event handler

9. Streams
- What are streams
- Read and Write Stream API
- Flow Control
- Piping
- Duplex Stream
- Transform Stream
- Configuring event handler

Day 2

10. HTTP
- The HTTP protocol
- Building an HTTP server
- Rendering a response
- Processing query strings
- Using Representational State Transfer
- Configuring TLS

11. Express.js
- Intro and Installing Express.js
- The model-view-controller pattern
- Building a front-end controller
- Building a Hello Express application
- Creating routes
- Creating actions
- Rendering Layouts
- Using templates
- Adding partials
- Using locals and conditional templates
- Modularizing routes using REST
- Reading POST data
- Adding middleware

12. Socket.io
- The Basics
- Server side
- Client side
- Sending and Receiving Objects
- Streaming Data

13. Connecting to Databases
- How Node.js connects to databases
- RDBMS databases and NoSQL Document Stores
- Connecting to RDBMS and NoSQL databases
- Configuration and platform setup
- Performing CRUD Operations
- Building client requests to web services

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COURSE CONTENTS

14. Modules and Unit Testing
- Modularization
- The CommonJS and RequireJS specifications
- Defining modules with exports
- Modules are singletons
- Creating a package
- Module scope and construction
- Unit testing frameworks
- What to test and how to test it
- Building unit tests with Mocha