



*Unleash your potential*

# Module Presenter's Manual

*for*

## **Essentials of Node.js**

***Effective From: May 2022  
Ver. 1.0***

## Amendment Record

Version No.	Effective Date	Change	Replaced Pages
1.0	May 2022	New	-

## Table of Contents

Sr. No.	Details	Page No.
1.	<a href="#">Introduction</a>	1
2.	<a href="#">Information on Session Allocation</a>	1
3.	<a href="#">Session Deliverables</a>	2
4.	<a href="#">Week-wise Session Schedule</a>	3
5.	<a href="#">Session Coverage</a>	4
6.	<a href="#">Library References</a>	7

## 1. Introduction

---

At the end of this course, students will be able to:

- Learn the fundamentals of Node.js
- Develop Dynamic Web Applications with Node.js
- Learn Express.js in depth
- Work with Asynchronous Programming and API Server
- Use MySQL and MongoDB with Node.js
- Understand Authentication and Security
- Deploy Node.js Applications

## 2. Information on Session Allocation

---

Module	Online Hours
Essentials of Node.js	24

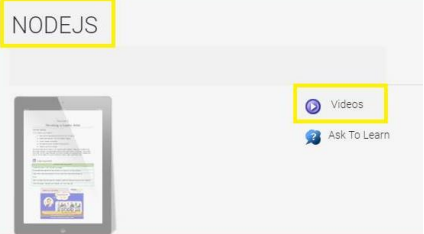


Throughout this Presenter's Manual, the module, *Essentials of Node.js* will be referred to as **NODEJS**.

### 3. Session Deliverables

To aid the teaching process, following are the deliverables

(Faculties can access eBooks and other components in Onlinevarsity through Aptrack.)

Resources available on Onlinevarsity:

Icons	Feature - Description/Functionality
	<p><b>Watch Videos</b> - Student can watch the subject related videos by clicking <b>Videos</b> link.</p>
	<p><b>Feedback</b> - Student can provide feedback on the course material.</p>
	<p><b>Ask to Learn</b> – Student can submit subject related technical queries. Queries submitted will be directed to the particular course coordinator/head.</p>

#### 4. Week-wise Session Schedule

- A Session is of 2 hours duration.

##### ➤ Week-Wise Schedule

Week	Day 1	Day 2	Day 3	Day 4
1	Session 1 NODEJS – TL1	Session 2 NODEJS – TL2	Session 3 NODEJS – TL3	Session 4 NODEJS – TL4
2	Session 5 WPYT – TL5	Session 6 NODEJS – TL6	Session 7 NODEJS – TL7	Session 8 NODEJS – TL8
3	Session 9 NODEJS – TL9	Session 10 NODEJS – TL10	Session 11 NODEJS – TL11	Session 12 NODEJS – TL12

**NODEJS:** Node.js  
**TL:** Online Session

## 5. Session Coverage

Session No.	Session Title	Session Details	Deliverables' Mapping
1	<b>NODEJS – TL1</b>	<p>All the Video topics as listed below from Session 1 of <i>NodeJS course</i> should be covered in this session.</p> <p><b><u>Session 1: Basics of Node.js</u></b></p> <ul style="list-style-type: none"> <li>• Getting Started</li> <li>• Installing Node on Linux</li> <li>• Installing Node on Windows</li> <li>• Writing Your First Node App</li> <li>• Creating Command Lines</li> <li>• Using Existing Code in Node.js</li> <li>• Sharing Functions Between Files</li> </ul>	<p><b>NodeJS</b></p> <p>Trainer Material- Session 1</p>
2	<b>NODEJS – TL2</b>	<p>All the Video topics as listed below from Session 2 of <i>NodeJS course</i> should be covered in this session.</p> <p><b><u>Session 2: Dynamic Web Applications with Node.js</u></b></p> <ul style="list-style-type: none"> <li>• Requests and Responses</li> <li>• Mapping Requests</li> <li>• Dynamic Web Applications</li> <li>• Embedded JavaScript (EJS)</li> <li>• Creating a Simple Web Server</li> <li>• Using NPM to Install Libraries</li> <li>• Scaffolding an Express.js Web App</li> <li>• Understanding Routes and Actions</li> <li>• Serving HTTP Responses</li> </ul>	<p><b>NodeJS</b></p> <p>Trainer Material- Session 2</p>
3	<b>NODEJS – TL3</b>	<p>All the programs as discussed in Session 1 and Session 2 of <i>NodeJS course</i> should be covered in this session.</p>	<p><b>NodeJS</b> (Lab) Session 1 &amp; 2</p>
4	<b>NODEJS – TL4</b>	<p>All the Video topics as listed below from Session 3 of <i>NodeJS course</i> should be covered in this session.</p> <p><b><u>Session 3: Express.js in Depth</u></b></p> <ul style="list-style-type: none"> <li>• Express.js</li> <li>• Middleware and Serving Static Files</li> <li>• Using Template Engine – Jade</li> <li>• Using Template Engine – EJS</li> <li>• Adding Responsiveness with Bootstrap</li> <li>• Handling Parameters</li> </ul>	<p><b>NodeJS</b></p> <p>Trainer Material- Session 3</p>

Session No.	Session Title	Session Details	Deliverables' Mapping
5	NODEJS – TL5	<p>All the Video topics as listed below from Session 4 of <i>NodeJS course</i> should be covered in this session.</p> <p><b><u>Session 4: Asynchronous Programming and API Server</u></b></p> <ul style="list-style-type: none"> <li>• EIntroducing the Event Loop</li> <li>• Understanding callbacks and Error-First Pattern</li> <li>• Using async.js Library</li> <li>• Using promises</li> <li>• Making AJAX calls</li> <li>• Building RESTful Web Services</li> <li>• Developing REST APIs</li> <li>• Mocking Up CRUD</li> <li>• Testing APIs with cURL</li> </ul>	<p><b>NodeJS</b></p> <p>Trainer Material-Session 4</p>
6	NODEJS – TL6	<p>All the programs as discussed in Session 3 and Session 4 of <i>NodeJS course</i> should be covered in this session.</p>	<p><b>NodeJS</b> (Lab) Session 3 &amp; 4</p>
7	NODEJS – TL7	<p>All the Video topics as listed below from Session 5 of <i>NodeJS course</i> should be covered in this session.</p> <p><b><u>Session 5: Using MySQL and MongoDB with Node.js</u></b></p> <ul style="list-style-type: none"> <li>• Setting Things Up</li> <li>• Connecting to MySQL</li> <li>• Providing REST APIs</li> <li>• Linking Up the Client</li> <li>• Finishing Touch</li> <li>• Preparing MongoDB</li> <li>• Using Mongoose</li> <li>• Implementing Auto-increment Counter</li> <li>• Creating Version 2 REST APIs</li> </ul>	<p><b>NodeJS</b></p> <p>Trainer Material-Session 5</p>
8	NODEJS – TL8	<p>All the Video topics as listed below from Session 6 of <i>NodeJS course</i> should be covered in this session.</p> <p><b><u>Session 6: Working with MongoDB</u></b></p> <ul style="list-style-type: none"> <li>• Using MongoDB</li> <li>• Express App Interfacing with MongoDB</li> <li>• MongoDB's ORM, Mongoose</li> <li>• Subdocuments &amp; References</li> </ul>	<p><b>NodeJS</b></p> <p>Trainer Material-Session 6</p>



Session No.	Session Title	Session Details	Deliverables' Mapping
9	<b>NODEJS – TL9</b>	All the programs as discussed in Session 5 and Session 6 of <i>NodeJS course</i> should be covered in this session.	<b>NodeJS</b> (Lab) Session 5 & 6
10	<b>NODEJS – TL10</b>	<p>All the Video topics as listed below from Session 7 of <i>NodeJS course</i> should be covered in this session.</p> <p><b><u>Session 7: Authentication and Security</u></b></p> <ul style="list-style-type: none"> <li>• Request Middleware</li> <li>• Basic Authentication Systems</li> <li>• Express Sessions</li> <li>• Bcrypt</li> </ul>	<b>NodeJS</b> Trainer Material- Session 7
11	<b>NODEJS – TL10</b>	<p>All the Video topics as listed below from Session 8 of <i>NodeJS course</i> should be covered in this session.</p> <p><b><u>Session 8: Deployment</u></b></p> <ul style="list-style-type: none"> <li>• Intro to Heroku</li> <li>• Deploying an App on Heroku</li> <li>• Environment Configuration</li> <li>• Logging in Production</li> <li>• Adding Configuration</li> <li>• Scaling out with a Cluster</li> <li>• Adding Performance Monitoring</li> </ul>	<b>NodeJS</b> Trainer Material- Session 8
12	<b>NODEJS – TL12</b>	All the programs as discussed in Session 7 and Session 8 of <i>NodeJS course</i> should be covered in this session.	<b>NodeJS</b> (Lab) Session 7 & 8

## 6. Library References

---

- |  |
|--|
| ➤ <b>Node.js in Action</b> by Mike Cantelon, T.J. Holowaychuk, Marc Harter, Nathan Rajlich |
| ➤ <b>Beginning Node.js</b> by Basarat Ali Syed   |
| ➤ <b>Sams Teach Yourself Node.js in 24 Hours</b> by George Ornbo                           |

~~~ End of Document ~~~