# Day 1

Event Loop

o Alternatives to Node.js

o Writing asynchronous code

o Nodejs Building Blocks

 Modularizing code

o Core built-in modules

o Creating Node Modules

o Modularizing JavaScirpt code

o Using require() to modularize application code

o Using npm for third-party modules

 Events and Streams

o Understanding Events

o EventEmitter class

o File System Access

o Reading and writing to files

o Understanding Streams

o Reading and writing streams

o Using pipe()

 Accessing Local Resources

o Process Object

o Manipulating File System

o Understanding Buffers

# Day 2

 Node.js and the web

o Handling web requests

o Building a web server

o Understanding the need for web sockets

o Realtime interaction using socket.io

 Building web applications using Express.js

o Installing Express.js

o Routing

o Parameters and queries in routing

o Building views using Jade view engine

o Using blocks for layout

o Displaying data

o Working with forms

o Serving files

o Working with cookies and sessions

o Authentication and authorization

o Error Handling

# Additional Topics Requested:

1. Configuration management – externalizing config files by environment and accessing them using node environment variables
2. DB Access using node modules for SQL Server, Oracle
   1. Model (basically DB Table representation in code) schemas, validations, mapping
3. Building Services in Node
   1. Routing
   2. Request schema validation
   3. Versioning – Major, Minor
4. Unit Testing of Code using Chai and Mocha
   1. Istanbul for code coverage
   2. Stubs and mocks
5. Security and Authentication (JWTs, Private Routes, Auth Middleware etc)
6. ES6 Promises/ Advanced Promises
7. Packaging and deploying aspects of Node using Docker:
   1. Docker related overview – whats is it, why to use, fundamentals etc.
   2. Building docker images for node services
   3. Running docker images
   4. Troubleshooting docker issues by checking container logs, connecting inside the instance etc