# NODE AND EXPRESS JS

* Node.js is an open source and cross-platform (an approach to developing software application that are compatible with multiple mobile operating system or platforms) JavaScript runtime environment .
* Node.js runs the V8 JavaScript engine , the core of Google Chrome , outside of the browser.
* A Node.js app runs in a single process , without creating a new thread for every request.
* Node.js uses event driven , non-blocking I/O model to handle concurrent request with single thread.

1. Why Node.js is popular ?
   * 1. JavaScript Everywhere ( Client + Server ) :- JavaScript is used for both Front-End and Back-End applications which means node JS is everywhere on the Client and Server.
     2. Fast performance :- It handle multiple request with single asynchronous thread which reduces the workload on CPU and memory .
     3. Lightweight – build event driven architecture
     4. Fast time to market
     5. Modern Architecture and Scalability.
     6. Cross platform – Creating APIs
     7. Vast number of libraries and packages.
     8. Can be hosted anywhere
2. Build apps with Node.js ?
   1. Streaming web applications like Netflix , Amazon
   2. Real-time web applications like chat , IM
   3. Microservices and IOT applications.
   4. Build any MERN Stack applications like Ecommerce , Payments
   5. Social Media and Networking applications like LinkedIn , Medium
   6. Create Restful APIs
3. Node JS vs Browser ?
   1. Both the browser and Node JS use JavaScript as their programming language.
   2. Building apps that runs in the browser is completely different thing than building a Node.js application.
   3. With Browser we have access to DOM , Web API where as with Node.js we have modules provide to access to file system , OS .
   4. Node.js supports both the Common JS require () and ES module systems import while in the browser we are starting to see ES Modules standard being implemented.