**Node.js**

Node.js is the latest in the programming languages ,API’s ,and toolkits’ that sense, it lands equally in the tradition of Ajax , Hadoop,and even to some degree of IPhone programming and HTML5 . If you go to some technical conference , and you’ll almost certainly find a few talks on Node.js, most of them will fly far over the head of the common mortal programmer .

Lets know more about it , and you will hear that Node.js or many simply call it “NODE” . It’s a server-side solution for javaScript and in genral for receving and responging to HTTP requests. The questions arise is it really a java script and why anyone wants to run javascript outside the javaScript why not the alone at the server side .

If you thinking about this it means you going along the right things . Node is really is concerned about network programming and server-side requests/response processing . Node.js applications are written in javaScript, and can be run within the Node.js runtime on OS X ,Microsoft ,Windows and Linux.

Node.js also provides a rich library of various javaScript modules which simplifies the development of web application using Node.js to a great extent .

**Node.js = Runtime Enviorment + JavaScript Library**

**Features of Node.js**

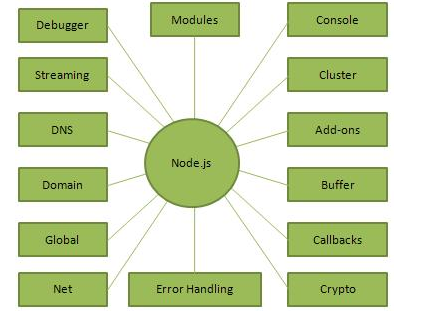
Following are some of the important features that make Node.js the first choice of software architects .

* Asynchronous and event driven - All the APIs of the Node.js library are asynchronous , that is non-blocking . It essentially means a Node.js based server never waits for an APIs to return data.The server moves to the next API after calling the notification mechanism of events of Node.js helps the server to get a response from the previous API call .
* No Buffering – There is never buffering in Node.js application. These application simply output data .
* Very Fast – Its build on google chrome V8 javaScript engine , that why its very fast in code execution .
* Single Threaded but highly scalable – Node.js uses a single threaded model with event looping . Event mechanism helps the server to respond in a non-blocking way and makes it very highly scalable as compared to other servers which creates limited threads to handle requests . Node.js uses a single threaded and at the same time same program can be used to provide to a much larger number of other requests than other servers like Apache and HTTP Servers .
* Licence – Node.js is released to under MIT license .

**Where its Used**

Now days big IT companies uses Node.js . This includes eBay, General Electric , GodDaddy ,Microsoft,Paypal , Uber,Wikipins,Yahoo, and Yammer.

**Concepts**

****

**How does it work**

The main concept of Node.js is to use the non – blocking , event-driven I/O to remain lightweight and efficient in the face of data-intensive real time application that run across distributed devices .

That means Node.js is a platform that fills out a need of a particular application. Furthermore, understanding of it is absolutely essential. You definitely don’t want to use Node.js for CPU-intensive operations, infact using it for heavy computation will annual nearly all of its advantages . Node.js is really fast and compatible in building fast ans scalable network application, as its capable of handling very high number of throughput , which leads it to very high scalable.

How it works under-the-hood seems very interesting . Compared to other traditional web-serving techniques where each request handled by a new thread , taking upi system RAM and eventually maxing-out the amount of the RAM available, Node.js is operate on a single-thread, using non-blocking I/O call , allowing it to support thousands of connection at a time .