NODE JS

INTRODUCTION

What is node js?

- Node.js was created by **Ryan Dahl** starting in 2009.
- Node.js is server side javascript.
- Runs on Google's V8 JavaScript Engine.
- Node js is free.

- Node.js is an open source, cross-platform runtime environment for developing server-side and networking applications.

- Node.js applications are written in JavaScript, and can be run within the Node.js runtime on OS X, Microsoft Windows, and Linux.

What is V8 engine?

V8 is Google's open source high-performance JavaScript engine, written in C++ and used in Google Chrome, the open source browser from Google, and in Node.js, among others.

What is npm?

NPM is a [package manager](#) for the [JavaScript](#) programming language. It is the default package manager for the JavaScript runtime environment [Node.js](#).

Node Package Manager (NPM) provides two main functionalities −

1. Online repositories for node.js packages/modules which are searchable on search.nodejs.org
2. Command line utility to install Node.js packages, do version management and dependency management of Node.js packages.

What is express js?

Express js a light-weight web application framework to help organize your web application into an MVC architecture on the server side. You can use a variety of choices for your templating language (like EJS, Jade, and Dust.js).

You can then use a database like [MongoDB](#) with [Mongoose](#) (for modeling) to provide a backend for your Node.js application. Express.js basically helps you manage everything, from routes, to handling requests and views.

What is socket.io?

Socket.IO enables real-time bidirectional event-based communication. This module is good for creation of chatting based applications.

INSTALLTION

Installation Steps

You Can download setup for link
https://nodejs.org/en/download/
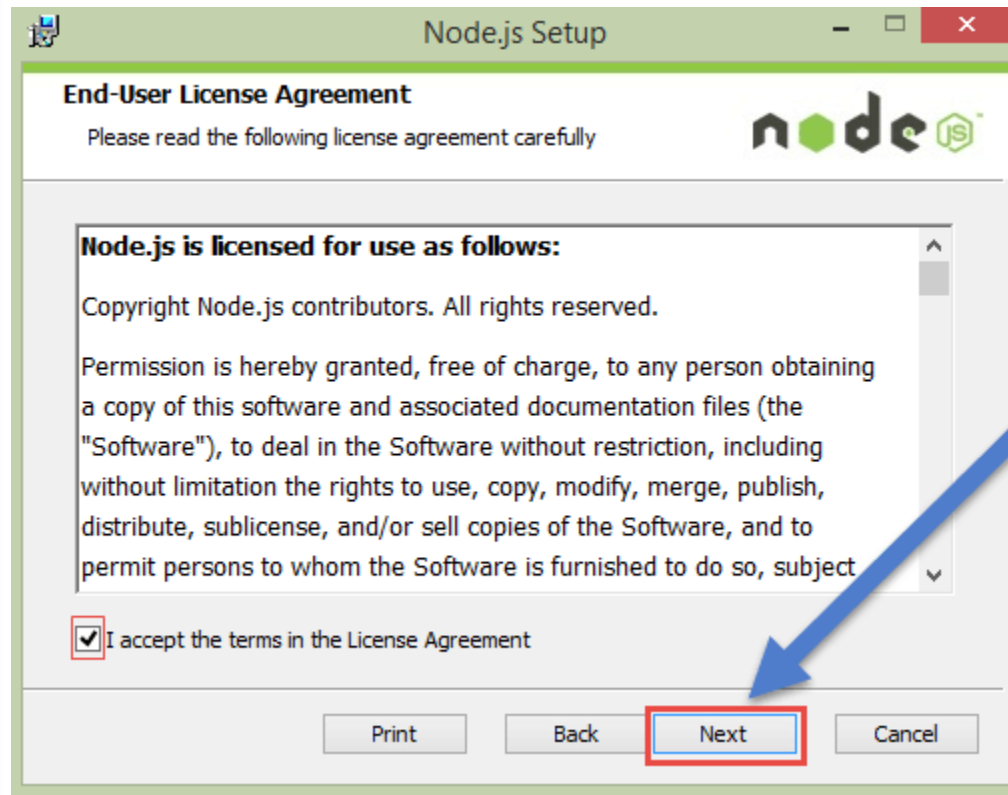
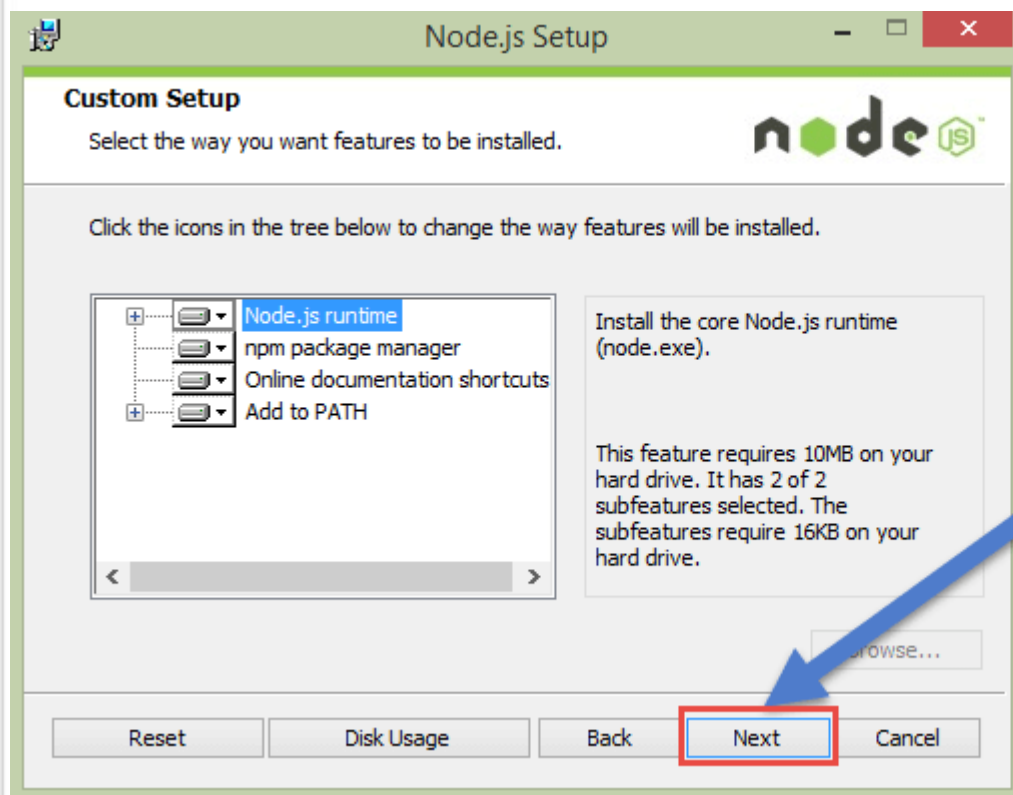Double click on the downloaded .msi file to start the installation
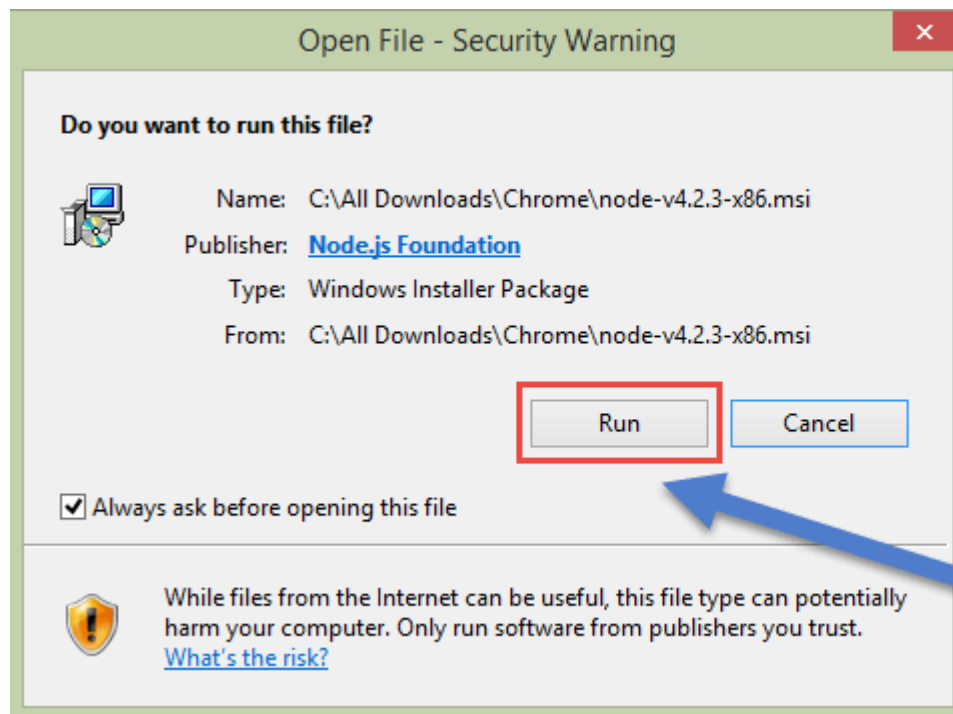
In the next screen Accept the license agreement and click on the Next button.
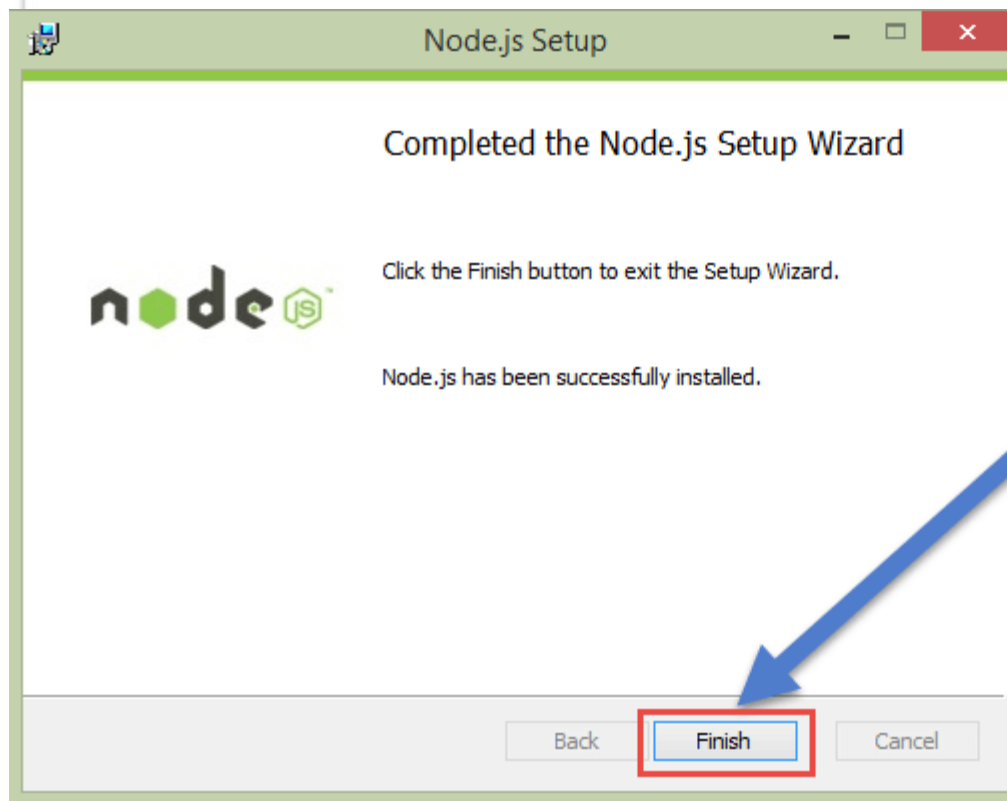

Accept the license agreement and click the Next

Accept the default components and click on the next button.

Accept the default components and click on Next

Click the Finish button to complete the installation.

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Check node js installed

- Open Command line interface (cmd)
- Type for node : node –v

   V6.7.0

- Type for npm version : npm -v

   3.10.8

How to make project

Open Command line interface (cmd)

- C://mkdir your_project_name
- C://cd your_project_name

Use the npm init command to create a package.json file for your application.

•C:// your_project_name/ npm init

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File package.json…..

Project informations

- Name

- Version

- Dependencies

- Licence

- Main file

Etc...

Why use node.js ?

- Non Blocking I/O

- V8 Javascript Engine

- Single Thread with Event Loop

- 40,025 modules

- Windows, Linux, Mac

- 1 Language for Frontend and Backend
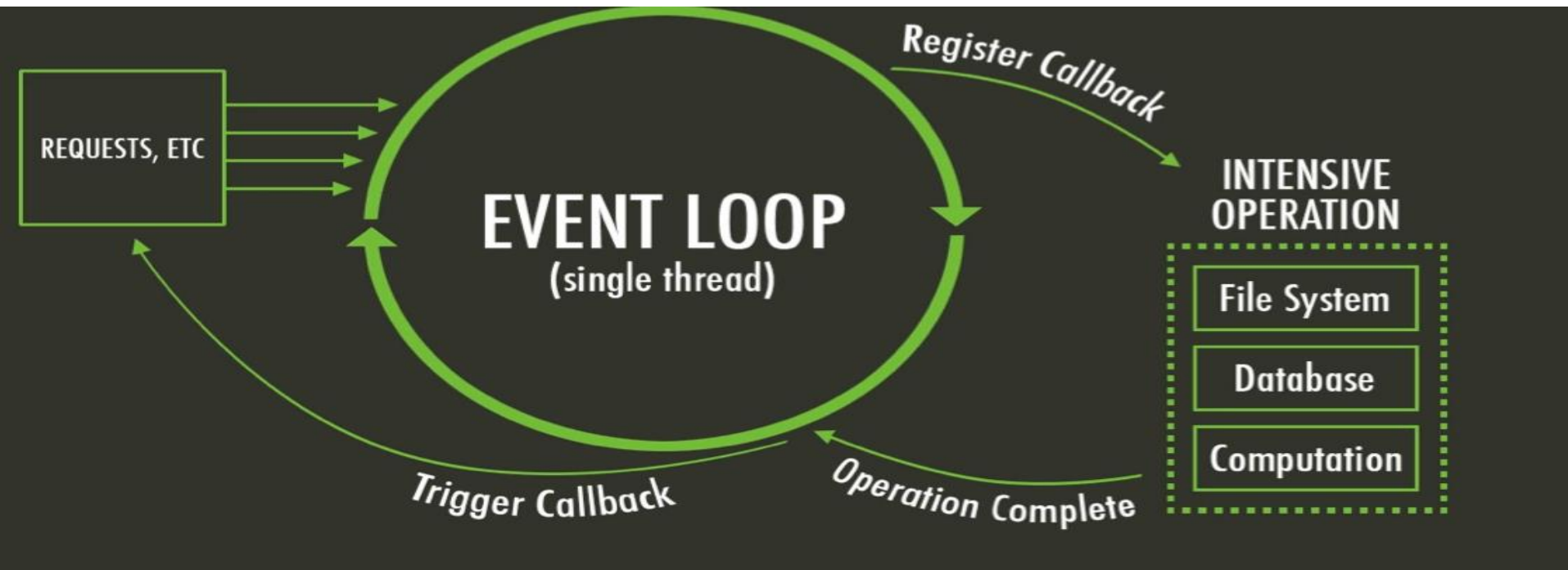
- Active community

Node Js VS Apache

1. It's fast
2. It can handle tons of concurrent requests
3. It's written in JavaScript (which means you can use the same code server side and client side)

Platform	Number of request per second
PHP (via Apache)	3187,27
Static (via Apache)	2966,51
Node.js	5569,30

Node.js Event Loop

Success Stories.....

Linked in

Rails to Node
« Servers were cut to 3 from 30 »
« Running up to 20x faster in some scenarios »
« Frontend and backend mobile teams could be combined [...] »

PayPal™

Java to Node
« Built almost twice as fast with fewer people »
« Double the requests per second »
« 35% decrease in the average response time »

GROUPON

Walmart

YAHOO!

UBER

Node.js is not……

- Another Web framework

- For beginner

- Multi-thread

Blocking vs Non-Blocking……
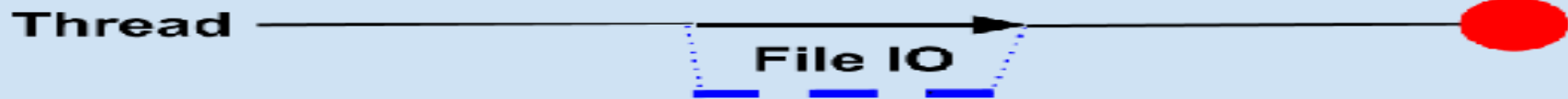
Example :: Read data from file and show data

Node.js Modules.....

- https://npmjs.org/
- # of modules = 1,21,943

npm is the package manager for javascript.

1,21,943
total packages

4,08,79,678
downloads in the last day

22,86,36,931
downloads in the last week

82,36,52,154
downloads in the last month

node js

Install module…..

$npm install <module name>

Using module.....

- var http = require('http');
- var fs = require('fs');
- var express = require('express');

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