



Top 15 Best Node JS Frameworks Soaring In Popularity

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JavaScript has its own popularity quotient amidst a whole lot of technologies and when we talk of JavaScript, Node JS reigns amongst the top. As a popular server-side technology based on JavaScript, Node JS has a wide variety of frameworks that assist in serving a platter of use cases

Developers have been a great fan of **Node JS frameworks** and often find it confusing to decide which one to choose from. These frameworks are key to faster and easier <u>NodeJS application development</u>. Before we plunge into the pool of NodeJS frameworks, let us quickly understand the basic concepts of NodeJS and its key features.

What Is Node Js?

Node.js is an open-source, cross-platform, back-end JavaScript runtime environment that runs on the V8 engine and executes JavaScript code outside a web browser. – <u>Wikipedia</u>

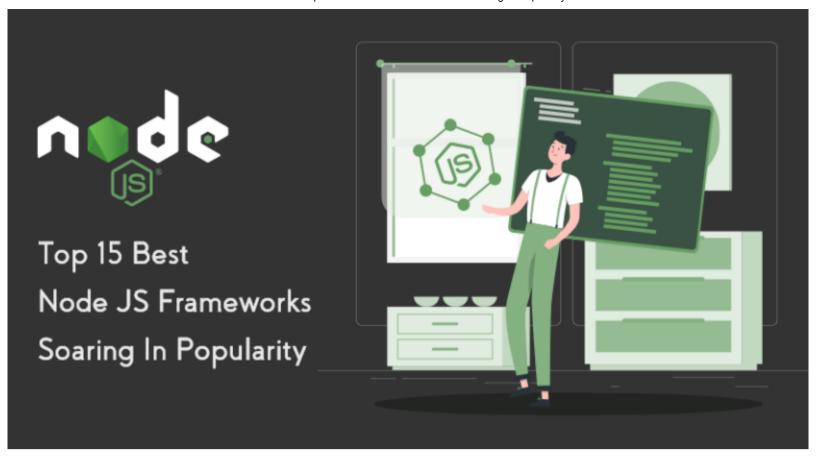
NodeJS has the competence to create/open/read/write/delete/close files on the server, generate dynamic page content, collect form data, add/delete/modify data in the database. It is considered ideal for creating video streaming apps, chat apps, news feeds, web apps, games, single-page apps, etc. There are three kinds of Node JS frameworks – MVC, Full-Stack MVC, and REST API.

NodeJS has been one of the most popular technologies worldwide, thanks to the following salient features:

- Lightweight, scalable, and fast
- Event-driven model
- Good community support
- Wide variety of library support
- Reusable code and real-time applications
- O Secure frontend and backend development
- Effective client apps request handling
- O No buffering and easy to learn
- Consistent source code
- Enhanced productivity and lesser development time

A few of the organizations that have been extracting the best of Node JS are **Uber, Trello, LinkedIn, PayPal, NASA, eBay, Medium**, and many more.

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Best Node JS Frameworks

- Express JS
- Koa.js
- Meteor JS
- Socket.IO
- MEAN.io
- DerbyJS
- LoopBack
- Feathers JS
- Nest JS
- Sails.js
- O Total.js
- Hapi JS
- Adonis JS
- Strapi
- KeystoneJS

Let's look at each of these Node Js Framework in detail.

Express JS:

Express JS is one of the most flexible and lightweight Node JS framework that offers a minimalistic approach. As an easily usable framework for your project, it can be leveraged for any kind of development work related to web-based, mobile-based, browser-based, enterprise-level applications. It offers developers the flexibility to try their own tactics since it is not created around certain specified components. There is seamless integration with third-party database technologies like MongoDB, MySQL, Sentry, Datadog, etc.

Express JS can be utilized for single-page, multi-page, and hybrid applications. It is an integral part of the <u>MEAN software</u> stack. It is ideal for creating simple apps that need to handle multiple requests concurrently. Express offers a lot of support for various plug-ins and extensions and hence is highly scalable for web and mobile apps. It offers the option to bring in error handling middleware. Web apps like Twitter, Accenture, Intuit, etc. have been made with the benefits of Express JS.

Key Features:

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- Multiple HTTP helpers
- Pure JavaScript experience
- Rapid prototyping and low learning curve
- Fully customizable with massive community support
- O Powerful routing system for route definition centered on URLs and HTTP methods
- Supports MVC architecture for upcoming centric apps

Koa.js:

Koa is the next-gen, open-source, NodeJS web framework that has been assisting developers to create APIs with ease, handling the HTTP middleware with a stack-like method. Various forms of content representation can be managed and maintained through a common URL. It is ideal for huge projects and creating large apps. It has been created by Express JS creators with an objective to have a more compact and expressive version for creating web apps.

Koa is utilized for frontend, backend, and hybrid systems. It has an inbuilt blanket for errors that avoids website crashes, and its error handling processes are highly effective. It is best leveraged while creation of servers and routes, managing errors and responses. Organizations like BrainHub, Paralect, Bulb, etc. have been using Koa as their tech stack. Since it uses a modular approach for development, the foundation is quite strong and secure.

Key Features:

- O Customizable, futuristic, and personalized
- O Powerful error handling and high performance
- Smaller and modernized footprint
- Facilitates upstream and downstream control flow
- Component dependent blocks
- O Lightweight, robust, and interoperable
- Avoids call back through ES6 generator

Meteor JS:

Meteor is a free, well-known, open-source, isomorphic JavaScript framework for web, mobile, and desktop, written using Node JS. It has the competence to circulate data alterations to clients without any assistance from developers. It offers extensive support for integration with other frameworks. Rapid interactions offer quicker results and hence it is ideal to create dynamic apps within a pre-decided time frame. As a full-stack JavaScript platform, JS executes at different places, as needed.

Since Meteor is simple to learn and does not follow any difficult rules, it is ideal for novices who want to build apps for different platforms. Companies like **Accenture**, **Esri**, **Deloitte**, **Nordstrom**, **etc**. have been using Meteor for their apps. Its instant update feature provides an immediate reflection of changes in the template. Meteor JS has a competent toolbox with integration tools that helps developers create modernized apps. It can be integrated well with Cordova to create mobile apps from a similar codebase as other routine web apps.

Key Features:

- Highly responsive
- Good community support
- Cross-platform compatibility
- Robust and transparent data synchronization
- Interoperable and rapid prototyping
- Offers real-time updates
- O Complete app development in a single framework

Socket.IO:

Socket.IO is a popular JavaScript library for real-time web applications. It offers seamless, bidirectional, and low-latency

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framework is ideal for building applications in which the servers must push the data without client requests. It is perfect for creating video conferencing apps and a real-time chat room.

Socket.IO permits data to be shared in many forms, the most preferred one being JSON. It consists of a JavaScript server and a client library. It is highly compatible with languages such as Swift, Python, .NET, Java, C+, etc. It can assist in error handling, broadcasting, event handling, logging, debugging, chat applications, chatbots, etc. Socket bundles are used that are smaller in size and hence getting almost real-time data is easier and faster. CNN, Alibaba travels, Trello, Patreon, etc. are a few of the companies using Socket.IO.

Key Features:

- O Reliable, performant, and scalable
- Focussed binary support
- Auto-correction and effective error detection
- Addition of real-time analysis capabilities
- Exceptionally fast
- Instant chat and messaging feature
- Event-driven framework

MEAN.io:

MEAN.io is a popular web development framework that comprises the complete MEAN stack and other development tools. It offers complete support for the MEAN stack wherein M stands for **MongoDB**, E for **Express JS**, A for **Angular JS**, and N for **Node JS**. This complete development stack is integrated in such a way that all components are built to be working in connection with each other. It also has complete support for other tools like Babel, GraphQL, etc.

MEAN.io helps developers in furnishing alterations in any type of application at any stage of the software development lifecycle. This offers a great deal of flexibility to programmers in managing changes instantly. If programmers have knowledge of JavaScript, there is no requirement of an independent server in case MEAN.io is used. Cloud-based compatibility is ensured with MongoDB as the database. It is considered perfect while creating websites and real-time applications.

Key Features:

- Full proof and reliable
- End-to-end framework
- Secure, robust, and scalable
- Best of four technologies MEAN
- Added NodeJS framework on top of ExpressJS
- Complete support for other external tools
- Easy to learn and implement for novices

DerbyJS:

DerbyJS is a known NodeJS framework that helps developers write real-time and collaborative apps that execute in different browsers with NodeJS. It has a focus on giving unique edit facilities with a lot of stability. There are features that multiuser and have a time frame that must be self-regulated. There is data time synchronization between servers, databases, browsers through its rendering engine called Derby Racer. It is ideal for real-time chats and web app development.

It is a two-way directional script development and hence and operates seamlessly across server and client script components. Developers can write customized code as per their requirement and hence offers a great deal of flexibility to do so. Loading content can become quicker with DerbyJS and even the creation of customized websites can be easier and faster. There is stringent support for online and offline conflict resolution with the help of operational transformation technology.

Key Features:

O Seamless and real-time data synchronization between client and server

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- Functionalities must be appended through npm commands
- Multiple editing options for developers
- O No time lag between sending and processing requests
- O Builds collective and real-time, customized apps

LoopBack:

LoopBack is an extensible Node JS and TypeScript framework for creating <u>Microservices</u> and APIs. As a popular framework, it offers great connectivity with most Node JS frameworks. Integration of this framework can be done with multiple API services. It is best fit to create REST APIs in the least time possible. It offers great flexibility when connecting to various devices, databases, and browsers. Organizations like IBM, AN10, GoDaddy, and many others have been using LoopBack as their Node JS framework.

LoopBack can be utilized as an external API service and manages API requests easily for building them. It has a simple command-line interface with which developers can create different models based on circuits. There is a good amount of compatibility with many REST services and databases like Oracle, MySQL, MongoDB, etc. Being a full-stack technology, it is ideal for the creation of server-side APIs and performs as a connecting link between the server and the client.

Key Features:

- Module and transparent coding style
- O Comprehensive and extensible support for networked apps
- O Good support for a wide variety of databases
- Fast creation of dynamic and comprehensive APIs
- Operates in the cloud and on-premises
- Enhanced association between services and datatypes
- O Developer friendly with good documentation

Feathers JS:

Feathers is a well-known, lightweight framework for real-time apps and REST APIs, using <u>JavaScript or TypeScript</u>. It is a Node JS microservices framework that is created for streamlining the procedure of web and module app development. With it, developers can create incredible apps in lesser time and decode the development scenario intelligently smoothening the whole process. They can use it continuously for decoding a program in an easy manner.

It can seamlessly interact with any backend technology and frontend technology like **Angular**, **Vue JS**, **React**, etc. Creating prototypes and production-ready apps in minutes is its unique selling point. It is meant for building complicated applications. It is a perfect combination of tools and architecture meant for creating real-time web apps from the beginning and scalable REST APIs. There are multiple plug-in support options available that can easily bring in the authentication.

Key Features:

- O Light-weighted, flexible, and reusable
- O CLI support and default plug-ins for authorization
- Automated RESTful APIs
- Ability to write sophisticated and transparent code
- Easy integration with a client-side framework
- Minimalistic and authenticated
- O Datastore agnostic

Nest JS:

Nest is a progressive Node JS framework to create trustworthy, efficient, and scalable server-side apps. Since it has a modular architecture, it permits usage of any type of library showcasing flexibility. It acts as a comprehensive backbone for all types of server-side apps. It makes the best use of all modern-day JavaScript features and offers mature solutions of the Node JS

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Nest offers functional reactive programming features that can simplify complicated graphical user interfaces. This framework is ideally used for building apps with lower maintenance. There is extensive support for scalable and effective app development. It is also perfect to write testable, scalable, and loosely packed apps. Because of its salient features, it is crafted as a developer's delight. Structuring the code becomes much easier and more organized for the developers. It combines the features of functional, functional reactive, and object-oriented programming.

Key Features:

- O Extensible, versatile, and progressive
- Simple learning curve
- Front end compatibility with technologies
- O Wide variety of libraries that are easy to use
- Enhances backend productivity
- Clear and reusable code
- Usage of high-level constructs filters, interceptors, etc.

Sails.js:

Sails is the most popular MVC framework for Node JS, mainly for emulation of the MVC architecture pattern of frameworks. It provides great support for data-enabled and modern-day development. It offers great compatibility with databases and integrates JavaScript frameworks very flexibly. Hence, it turns out perfect to create customized, enterprise-grade business applications. The apps are entirely written in JavaScript. It comes bundled with blueprints to assist in jumpstarting the backend without any code written.

Sails.js has a strong object-relational mapping (ORM), Waterline that offers a simplistic data access layer that functions perfectly, despite any database being referred. It has reusable security policies and is frontend agnostic. It is ideal to establish customizable chat applications, gaming apps, and social media apps. It is created on Express with MVC architecture relying on Ruby on Rails. It is easily compatible with any front-end tool – React, Angular, etc. Organizations like **Brainhub**, **Redox Engine**, etc. have been leveraging this technology.

Key Features:

- Auto-generation of REST APIs
- Multiple database connectivity with ORM
- O Creation of frontend and backend Node JS applications
- Simple WebSocket integration
- Real-time functionality support
- Net WebSocket Protocol support
- Compatibility with most databases

Total.js:

Total.js is a known open-source JavaScript platform that acts as a secure and stable server-side NodeJS framework. It also offers a client-side library that has many UI components that can be useful to build effective web applications. It is one of the rare frameworks that offer a CMS-like experience. It possesses almost all competencies that are needed in a Node JS environment.

Total, as a NodeJS backend framework, is recommended when flexibility and customization are needed. It is highly flexible and has different versions like CMS, Eshop, etc. It is ideal for eCommerce web development. Since it does not have many dependencies, it helps in the faster creation of web and mobile apps. It offers seamless integration with other frameworks like React JS, Angular JS, Ember JS, etc.

Key Features:

Excellent support and documentation

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- Faster, real-time tracking
- O Developer friendly, hassle-free, and robust
- Quick prototyping, inbuilt SMTP mailing features
- Support for different databases like PostgreSQL, MySQL, etc.

Hapi JS:

Hapi is derived from HTTP-API and is a popular open-source NodeJS framework used to create efficient web applications. It is mainly used to create API servers, HTTP-proxy apps, and websites. It is well known for its security features and reliability and hence known to create real-time social applications. Hapi can be leveraged to build robust and scalable apps that possess the least overhead and different functionalities.

It is considered one of the best for creating JSON API. Hapi has a configuration-based functionality and no external dependencies. There is an integrated architecture system with complete authentication and authorization API support in the Node framework. Main Stack, Beam, Commerce Tools, etc. use Hapi in their businesses. It has a plug-in-based modular architecture and hence speeds up the entire process of app development.

Key Features:

- O Highly scalable for development
- Quicker and simpler debugging
- Easy compatibility with other databases
- Enriched network
- Simple, secure, and reliable
- O Code reusability, input validation
- Error handling and logging

Adonis JS:

Adonis.js is a fully-featured, MVC, NodeJS web framework. It can operate on all operating systems and offer a secure system for creating server-side apps for fulfilling business needs. It has features like Laravel and hence developers who are known to Laravel can easily use this NodeJS framework. It can be used to create web apps and different APIs. It has a strong ORM that assists in making secure SQL queries.

Adonis does not need download or assembling of thousands of packages together and hence is quite fast and efficient. It is not a minimalistic framework but is a jam-packed one with many baseline features. **Zelo, Nina, Dotgroup, etc.** are some of the organizations making the most of Adonis. Its huge API collection, inbuilt support for mailing and authentication helps developers in creating the best of apps

Key Features:

- Strict focus on security
- Input validation
- Extensible application layout
- API dependent authentical protocol
- Powerful ORM for creating secure SQL queries
- Simple methods to send emails
- Supports No-SQL databases

Strapi:

Strapi is an open-source, free, headless CMS, and an ideal framework for creating powerful APIs with ease and speed. It is a fast and robust framework that is cent percent JavaScript, completely customizable, and developer-friendly. As an MVC Node JS framework, it is enriched with features for building secure and effective APIs for websites, web, or mobile apps.

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Key Features:

- O Secure, flexible, performance-driven
- Modernized admin panel
- Supports all frontend frameworks
- O Works well with all major databases
- Strong CLI
- Creates self-hosted APIs

KeystoneJS:

Keystone is an effective and flexible tool for dynamic NodeJS development. It can manage huge masses of content with ease and efficiency. It is a framework that is ideally used for managing static and dynamic projects that are content-heavy. It is considered a superpowered CMS for developers. It is open-source, lightweight, flexible, and full-stack. It is a framework built on modern-day technologies like MongoDB, Express.

KeystoneJS is most used in social media systems, eCommerce portals, content management systems, etc. It has a wide range of modules for the backend, web protocols, databases for object modeling. **Sony, Macmillan, Vodafone** are a few of the organizations that are using Keystone. It has an intuitive user interface with distributed modules. It is a real-time framework to manage and track updates, on a regular basis.

Key Features:

- Supports dynamic routing, form processing
- O Native add-on to edit and store images
- Efficient location tracking
- O Customizable to let developers select the needed features
- Attractive admin UI for easy data management
- Session management and powerful filters

An Afterword

What a wonderful spread of Node JS frameworks do we have! And the list seems to be increasing more and more, as technology keeps spreading its arms. Which one to choose from, has always been a tough call. It depends upon many parameters that are organization-specific, project-specific. Consulting an experienced IT partner for choosing the apt Node JS framework would surely benefit!



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