INTRODUCTION

Survey methodology

2017 NODE.JS USER SURVEY

The primary objective of the research was to profile Node.js users, understand usage patterns and trends and identify potential areas of improvement.

- Conducted online from November 30, 2016 to January 16, 2017 via a self-administered survey.
- Fielded worldwide in English and Mandarin to encourage maximum response.
- 1,405 individuals responded to at least some questions in the survey.*
- Numbers may not total to 100% due to rounding.
- Research was analyzed by Research Collaborative, an independent research consultancy.

*Due to skip logic or missed questions, the number of responses for individual questions may be considerably lower.
SUMMARY OF RESPONDENTS

Node.js usage profile

Users span a broad mix of development focus, ways of using Node.js, and deployment locations.

There is a large mix of tools and technologies used with Node.js

Experience with Node.js is also varied—although many have been using Node less than 2 years.

Node.js is a key part of their toolkit, being used at least half of their development time.
**Node.js is emerging as a universal development framework for digital transformation with a broad diversity of applications.**

With over 7 million Node.js instances online, three in four users are planning to increase their use of Node.js in the next 12 months. Many are learning Node.js in a foreign language with China being the second largest population outside of the U.S. using Node.
Node.js users span a variety of industries
How organizations use Node.js

DEVELOPMENT PRIMARY FOCUS

- 39% Back-end
- 16% Front-end
- 36% Full Stack
- 9% Other

DEVELOPMENT NET FOCUS

- Back-end (Including APIs): 73%
- Full Stack: 61%
- Front-end: 51%
- Ops/DevOps: 22%
- Desktop Applications: 20%
- Mobile: 18%
- IoT: 12%
- Security: 8%

Source: Q21, Q22
Node.js is being used with many types of tools and technologies. Databases, front-end frameworks and Node.js frameworks are chief among them.

Node.js technology affinity

**TYPES OF TOOLS/TECHNOLOGIES USED WITH NODE.JS in past 12 months**

- **95%** Databases
- **86%** Front-end Framework/Libraries
- **80%** Node.js Frameworks
- **61%** Load Balancing
- **49%** Containers/Cloud Native
- **46%** CI
- **19%** Messaging Systems

*Source: Q26*
For developers of all focus areas, Node.js has versatile usage.
Node.js usage spans development type

**TYPES OF DEVELOPMENT WORK SPEND TIME ON WITH NODE.JS**

- **Web Apps**: 84%
- **Enterprise**: 43%
- **Big Data/Analytics**: 14%
- **Embedded System**: 8%

**DEVELOPMENT WORK BY TITLE**

- **Web Apps**:
  - Developer: 85%
  - Manager: 83%
- **Enterprise**:
  - Developer: 38%
  - Manager: 59%
- **Big Data/Analytics**:
  - Developer: 12%
  - Manager: 20%

Source: Q23
Multiple deploy targets for Node.js

**FOR PRODUCTION**
- Amazon Web Services
- On-Premise Infrastructure
- Heroku
- Google Cloud Platform
- Digital Ocean
- Azure
- IBM Bluemix
- OpenShift
- Alibaba/Ali Cloud/Aliyun

**FOR DEVELOPMENT**
- On-Premise Infrastructure
- Amazon Web Services
- Heroku
- Digital Ocean
- Google Cloud Platform
- Locally/Local
- IBM Bluemix
- Azure
- Alibaba/Ali Cloud/Aliyun

Source: Q27, Q28, Q29
### USAGE APPLICATION

Node.js versions

**RELEASE LINE FOLLOWED**

- **60%** LTS
  - 66% Enterprise Focused
- **37%** Current
  - 47% Front-end Focused
- **3%** Other

**PRIMARY OS/DISTRO USED** *top mentions*

<table>
<thead>
<tr>
<th>For Production</th>
<th>For Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mac OS</td>
<td>46%</td>
</tr>
<tr>
<td>Ubuntu</td>
<td>20%</td>
</tr>
<tr>
<td>Windows</td>
<td>18%</td>
</tr>
<tr>
<td>Debian-based Linux Distr.</td>
<td>6%</td>
</tr>
<tr>
<td>Enterprise Linux &amp; Fedora</td>
<td>4%</td>
</tr>
<tr>
<td>Arch Linux</td>
<td>2%</td>
</tr>
</tbody>
</table>

Source: Q51, Q52, Q53
Node.js helps you succeed in the things that matter the most.

- Increased Developer Productivity: 68%
- Improved Developer Satisfaction: 65%
- Reduced Development Costs: 58%
- Increased Application Performance: 50%

Source: Q75
Node.js benefits increase over time

Impact by Years Using Node.js

- Increase Developer Productivity: 8% increase for <2 years, 10% increase for 2+ years
- Improve Developer Satisfaction: 10% increase for <2 years, 12% increase for 2+ years
- Reduce Development Costs: 10% increase for <2 years, 10% increase for 2+ years
- Increase Application Performance: 54% increase for <2 years, 44% increase for 2+ years
- Help Recruit Developers: 24% increase for <2 years, 14% increase for 2+ years

Source: Q75
Languages used

**LANGUAGES USED IN PAST 12 MONTHS**

- **JavaScript**: 90%
- **Python**: 36%
- **Java**: 35%
- **PHP**: 33%
- **.Net**: 20%
- **C++**: 19%
- **Ruby**: 16%
- **Go**: 16%
- **C**: 15%
- **Swift**: 11%
- **Rust**: 6%

**PRIMARY JAVASCRIPT LANGUAGE VERSION**

- ES2017 or Above: 11%
- ES5 or Below: 19%
- ES2016 (ES6): 64%
- Don't Know: 5%

Source: Q24, Q32
Future use of development languages

EXPECTED CHANGE IN USE OVER NEXT 12 MONTHS among users of each language

Source: Q24, Q25; among those who use respective brand and who provided an answer
Most popular languages per 2017 Stack Overflow survey

This year represents the largest group of respondents in Stack Overflow’s history: **64,000 developers took the annual survey in January 2017.**

<table>
<thead>
<tr>
<th>Programming Languages</th>
<th>Percentage of this category</th>
</tr>
</thead>
<tbody>
<tr>
<td>JavaScript</td>
<td>63%</td>
</tr>
<tr>
<td>Java</td>
<td>40%</td>
</tr>
<tr>
<td>Python</td>
<td>32%</td>
</tr>
<tr>
<td>PHP</td>
<td>28%</td>
</tr>
<tr>
<td>C++</td>
<td>22%</td>
</tr>
<tr>
<td>C</td>
<td>19%</td>
</tr>
<tr>
<td>Ruby</td>
<td>9%</td>
</tr>
<tr>
<td>Swift</td>
<td>7%</td>
</tr>
<tr>
<td>.Net</td>
<td>6%</td>
</tr>
<tr>
<td>Go</td>
<td>4%</td>
</tr>
<tr>
<td>Scala</td>
<td>4%</td>
</tr>
</tbody>
</table>

Source: https://stackoverflow.com/insights/survey/2017#technology
According to the Battery Open-Source Software (BOSS) Index, Node.js is a leader in enterprise-grade open source.

Profile of a typical Node.js user

**Used in over 85 countries** by speakers of more than 45 languages.

**User benefits include** Increased developer productivity, improved developer satisfaction, and reduced development costs.

**The “typical” Node.js user is college educated** in his early 30’s with 6-9 years development experience.

**Users are from a broad mix** in region, language, age, job function, experience, and employee size.
Node.js usage profile

**VERSION USED IN PRODUCTION**

- 57% Version 6
- 21% Version 4
- 16% Version 7
- 5% Other

**YEARS USING NODE.JS**

<table>
<thead>
<tr>
<th>Duration</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;2 years</td>
<td>43%</td>
</tr>
<tr>
<td>2-3 years</td>
<td>22%</td>
</tr>
<tr>
<td>3+ years</td>
<td>35%</td>
</tr>
</tbody>
</table>

Medium years: 2.3

**PERCENT OF TIME SPENT USING NODE.JS Medians**

- Professional Development Time: 51%
- Total Development Time: 58%

Source: Q16, Q19, Q20, Q38
USER DEMOGRAPHICS

User professional profile

PROFESSIONAL TITLE

- Developer: 67%
- Manager: 28%
- Other: 5%

NUMBER OF EMPLOYEES IN COMPANY

<table>
<thead>
<tr>
<th></th>
<th>&lt;10</th>
<th>10-99</th>
<th>100+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage</td>
<td>30%</td>
<td>30%</td>
<td>39%</td>
</tr>
</tbody>
</table>

Medium number: 54.2

PROFESSIONAL DEVELOPER EXPERIENCE

<table>
<thead>
<tr>
<th>Experience</th>
<th>&lt;3 years</th>
<th>3-9 years</th>
<th>10+ years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage</td>
<td>31%</td>
<td>38%</td>
<td>31%</td>
</tr>
</tbody>
</table>

Median years: 5.8

TOTAL DEVELOPER EXPERIENCE

<table>
<thead>
<tr>
<th>Experience</th>
<th>&lt;3 years</th>
<th>3-9 years</th>
<th>10+ years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage</td>
<td>15%</td>
<td>41%</td>
<td>44%</td>
</tr>
</tbody>
</table>

Median years: 8.7

Source: Q1, Q3, Q14, Q15
The majority of Node.js users plan to increase their use over the next 12 months.

Developers and users in Latin America are most likely to up their usage.
Collectively, Node.js users span **85+ countries** and speak more than **45 languages**

- **47%** English
- **6%** German
- **6%** Mandarin
- **6%** French
- **6%** Spanish
- **3%** Portuguese

Source: Q4, Q7
How users learn Node.js

**INFORMAL CODING EDUCATION** single response question

- **Online Courses (No. Instr.):** 35%
- **NodeSchool:** 10%
- **Tutoring:** 5%
- **Node.js Meetup Workshop:** 5%
- **Multiple Sources (misc):** 3%
- **None/NA:** 33%

**LANGUAGES**

- 51% learn Node.js in their Native Language
- 49% learn Node.js in a Non-Native Language
- 68% of Non-US users learned in Non-Native Language
- 95% of users learned Node.js in English
- 3% of users learned in Mandarin

Source: Q7/Q8, Q17
Ease of learning Node.js

### Ease of Learning Node.js by subgroup

#### Using Node

<table>
<thead>
<tr>
<th></th>
<th>All</th>
<th>&lt;2 yrs</th>
<th>2+ yrs</th>
<th>US/CA</th>
<th>China</th>
<th>Other APAC</th>
<th>EMEA</th>
<th>Latin Amer.</th>
</tr>
</thead>
<tbody>
<tr>
<td>EASY</td>
<td>45%</td>
<td>36%</td>
<td>51%</td>
<td>46%</td>
<td>33%</td>
<td>44%</td>
<td>46%</td>
<td>47%</td>
</tr>
<tr>
<td>DIFFICULT</td>
<td>4%</td>
<td>5%</td>
<td>3%</td>
<td>5%</td>
<td>7%</td>
<td>5%</td>
<td>3%</td>
<td>3%</td>
</tr>
</tbody>
</table>

No difference in ease of learning by company size

Source: Q33. *(Top 3/Bottom 3 box on scale from 1 ‘extremely difficult’ to 10 ‘extremely easy’)*
Interest in contributing to Node.js is limited, but there is some opportunity for mentoring development.

**User Demographics**

Node.js and getting involved

- **Interest in Contributing to Open Source Node.js Project**: 26% Yes
- **Interest in Mentoring Others**: 40% Yes/Maybe

Source: Q78, Q80
WHAT I LIKE ABOUT YOU

Agility
Full stack
Versatile
Ecosystem
Flexibility
Packages
Speed
Fun
Performance

Source: Q74. Word cloud reflects words most commonly used to describe what like about Node.js.
USER BENEFITS

What users like about Node.js

Versatility

I love being able to use JavaScript to make front-end, back-end, clip and everything in between. Liberating.

Agility

Node was super empowering for me as a novice: the ease of getting up and running, learning and being productive.

Performance

I like how Node.js totally changed the use of JS language; this language CAN do a lot of things and node.js is the great answer.
The Node.js Foundation’s mission is to **enable widespread adoption and help accelerate development of Node.js** and other related modules through an open governance model that **encourages participation, technical contribution, and a framework for long term stewardship** by an ecosystem invested in Node.js’ success.
INDUSTRY SUPPORT FOR NODE.JS

Node foundation members

Platinum
- IBM
- Intel
- Joyent
- Microsoft
- PayPal
- Red Hat

Gold
- GoDaddy
- NODESOURCE

Silver
- cars.com
- codefresh
- dynatrace
- Fidelity Investments
- Google
- Groupon
- nearForm
- npm
- RisingStack
- SAP
- Sauce Labs
- Snyk
- Yahoo!
- YLD
THANK YOU