

# Spanning the IoT Developer Chasm

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# The Developer Chasm in IoT

Microcontrollers /  
Small Devices



Edge Devices



Server / Cloud /  
Client

# Crossing the Chasm

Microcontrollers /  
Small Devices

**JS**



Edge Devices

**JS**



Server / Cloud /  
Client

**JS**

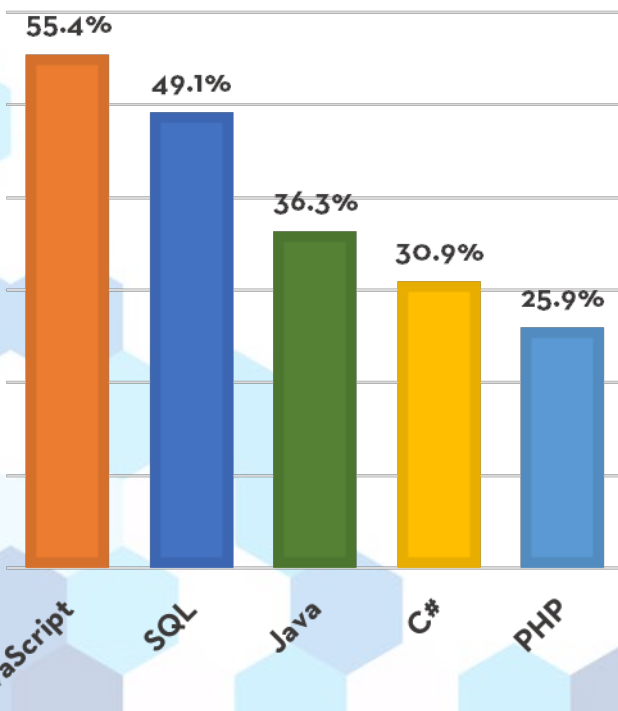
# Crossing the Chasm

- Client side application developers are already translating their skills to the server via Node.js
- Same opportunities are presenting themselves in the IoT space
- JavaScript is becoming a unifying language across the entire software platform in IoT

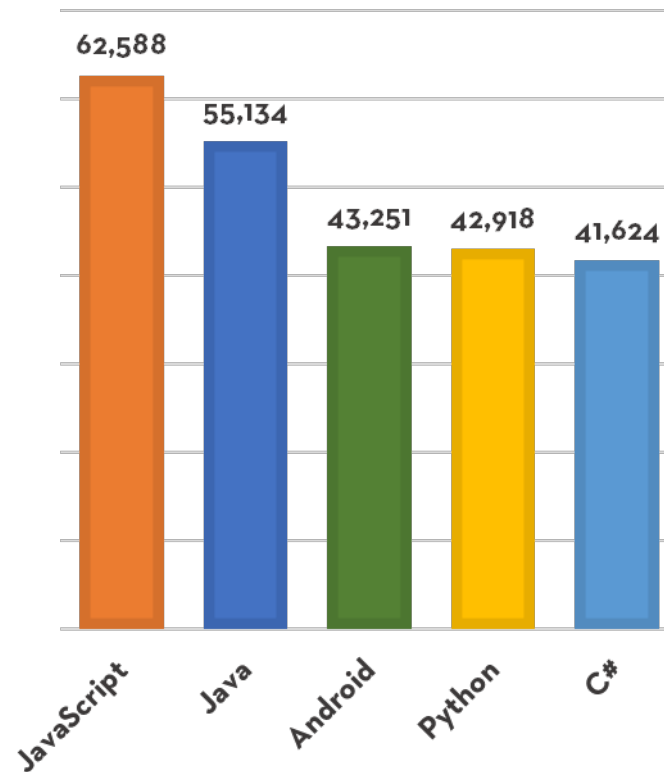


# Why JavaScript?

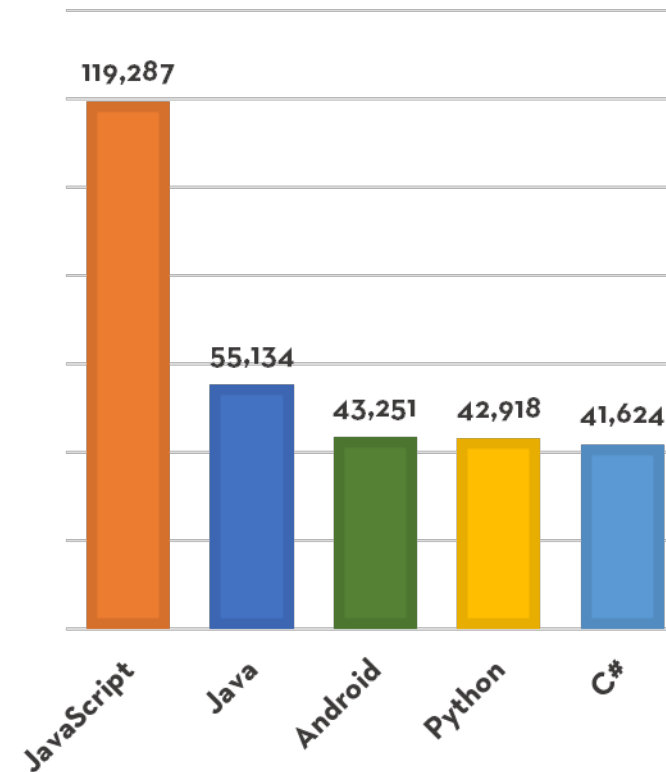
MOST POPULAR TECHNOLOGY



TOP TECHNOLOGIES



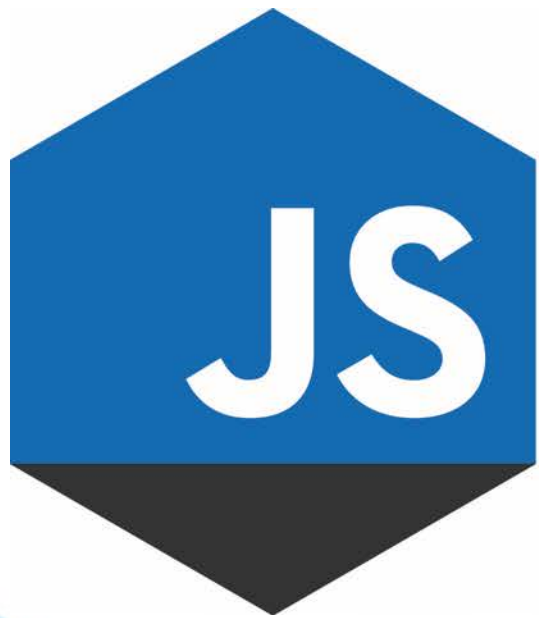
TOP TECHNOLOGIES\*



Source: Stack Overflow 2016 Developer Survey - <http://stackoverflow.com/research/developer-survey-2016>

\* Combined JavaScript tags include: JavaScript, jQuery, AngularJS, Node.js, JSON





# Foundation

# Innovate *Together*

- **Community**

- A center of gravity for open source JavaScript
- Crossing domain, technology and business sectors

- **Collaboration**

- Provide a location and mechanisms for the community to work together
- Guidelines and principles for growing large, diverse contributor bases

- **Continuity**

- A large, collaborative community increases innovation while providing for long-term sustainability

# Why JavaScript?

jQuery still runs on **80%** of top million websites  
and **>18%** of the entire internet



# Why JavaScript?

The jQuery CDN (code.jquery.com) averages  
**~15k requests/second** which translates to  
**>36 Billion downloads/month**  
and transfers of **>1.6 PB/month**

# Community

23 open source projects spanning multiple segments of the JavaScript ecosystem



# Why JavaScript?

Aggregate project downloads from npm are  
**~80 million/month!**

# Community

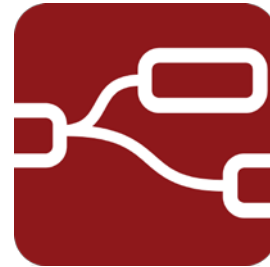
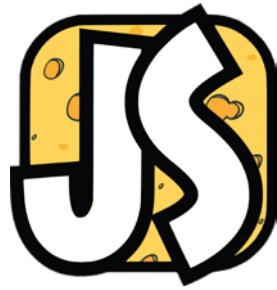


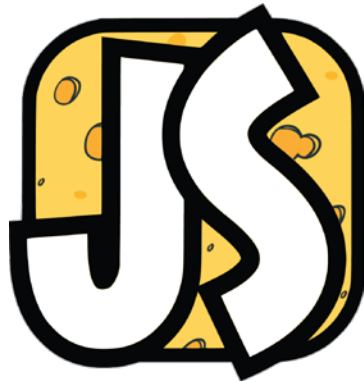
**Jed**

dōjō  
toolkit



# JS Foundation in IoT

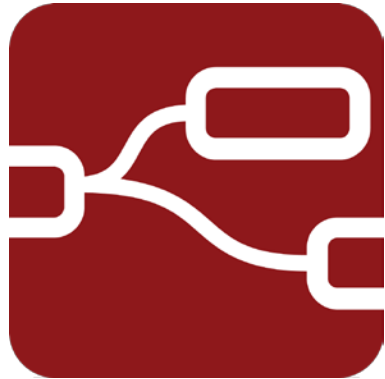




JerryScript is the lightweight JavaScript engine intended to run on a very constrained devices such as microcontrollers:

- Only few kilobytes of RAM available to the engine (<64 KB RAM)
- Constrained ROM space for the code of the engine (<200 KB ROM)

The engine supports on-device compilation, execution and provides access to peripherals from JavaScript.



Node-RED is a tool for wiring together hardware devices, APIs and online services in new and interesting ways.

- Browser-based flow editor for creating flows and one-click deployment
- Built on Node.js
- Flows can be exported and shared individually or via [flow.nodered.org](https://flow.nodered.org)
- Ships on every Raspberry Pi

# Demo





# Our Members



# Get Involved

Open your project at the JSF

- <https://js.foundation/projects/>
- [projects@js.foundation](mailto:projects@js.foundation)

Support the projects and initiatives your organizations depend on

- <https://js.foundation/members/>
- [membership@js.foundation](mailto:membership@js.foundation)

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