Node Basics

Angle Bracket

What is Node?

"Node.js® is a platform built on Chrome's JavaScript runtime for easily building fast, scalable network applications. Node.js uses an event-driven, non-blocking I/O model that makes it lightweight and efficient, perfect for data-intensive real-time applications that run across distributed devices." - nodejs.org

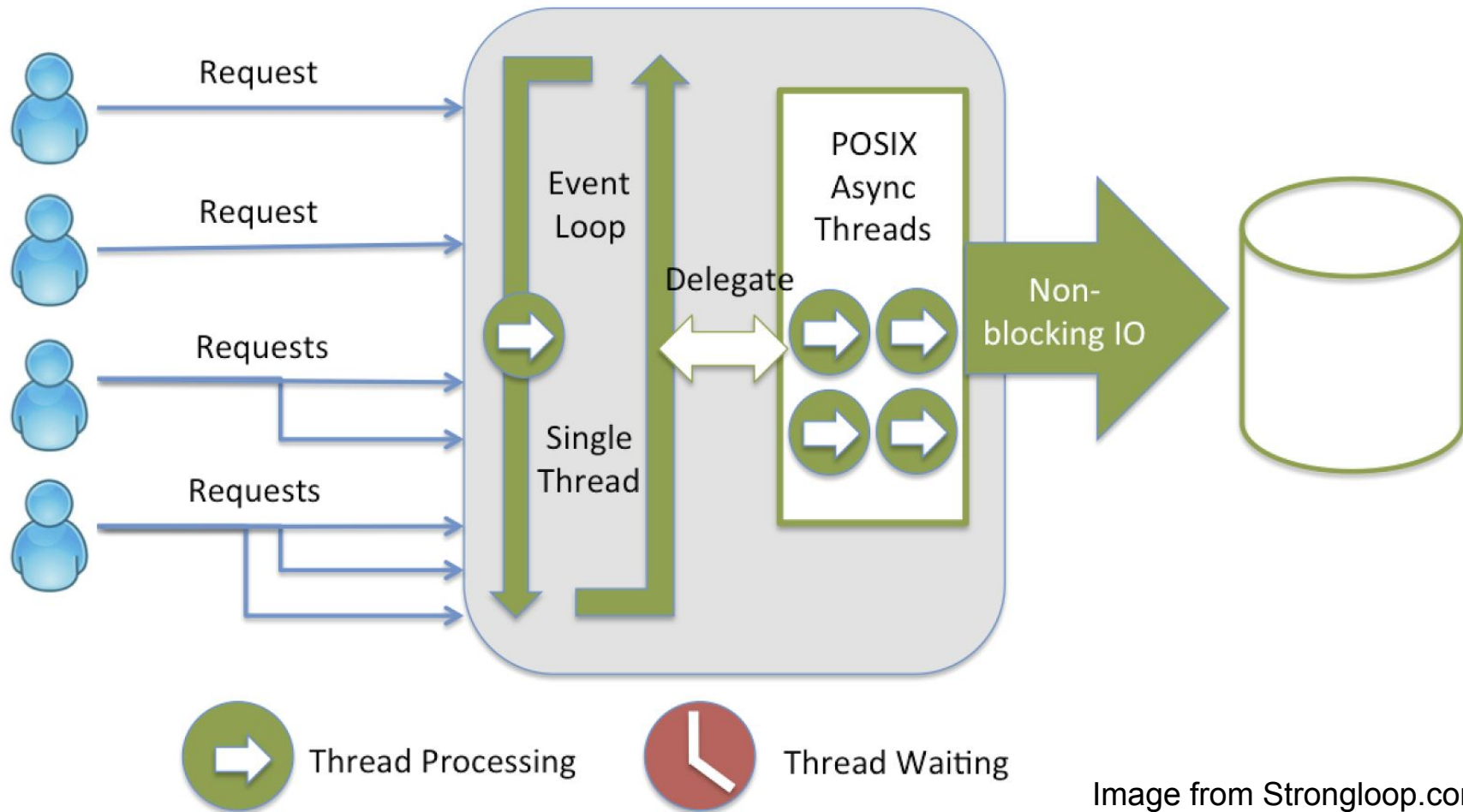# Node is great for

- JSON APIs

- Single Page Web Apps

- Streaming Data

- Soft Real Time Applications

Node is not meant to be used for

- CPU Heavy Applications

- Static Server…. ?

Node.js Server

Image from Strongloop.com

Recommended Reading

- https://docs.npmjs.com/

- https://github.com/substack/stream-handbook

- http://nikhilm.github.io/uvbook/index.html

- http://www.future-processing.pl/blog/on-problems-with-threads-in-node-js/

- http://eloquentjavascript.net/

Install Node and NPM

https://nodejs.org

Code Examples

https://github.com/samartioli/node-basics

Try out the REPL

Same as typing in browser console

$ node

> var a = true;

> var b = {foo:1, bar: true};

> console.log(b);

> typeof(b);

What is NPM?

- Javascript Package Manager

- Can install globally or locally

- DO NOT USE SUDO

  - http://www.johnpapa.net/how-to-use-npm-global-without-sudo-on-osx/

Use NPM

- NPM Global

https://github.com/samartioli/node-basics#npm-global

- NPM Examples

https://github.com/samartioli/node-basics#npm-examples

01 Basic Server

https://github.com/samartioli/node-basics#01-basic-server

- Basic HTTP Server is the Node.js Hello World

- Requires One Internal Module (http)

Node Docs

https://nodejs.org/api/

02 Node File System

- Synchronous and Asynchronous

- Works across all platforms. (libuv)

- fsRead vs fsReadFile

- fsReadFile vs fsReadFileSync

streams

https://github.com/substack/stream-handbook

● Similar to unix pipes. Sends data in chunks.

● You can read and write to a stream.

● Events: readable, data, end, close, error, writable, finish, pipe, unpipe

libuv

http://docs.libuv.org/en/v1.x/

"libuv is a multi-platform support library with a focus on asynchronous I/O"

- Write shell scripts that run everywhere

03 NPM Link

https://github.com/samartioli/node-basics#03-npm-link

- Installs your module globally

Modules

https://www.npmjs.com/

- Discrete Functional Units

- ~150k packages and growing

- Most all are Open Source and Freely License

04 Shelljs

https://github.com/samartioli/node-basics#04-shelljs

- https://github.com/arturadib/shelljs

- npm install shelljs --save

- Unix shell commands on top of node

- Thank You libuv

05 rename

https://github.com/samartioli/node-basics#05-rename

- Renames all files recursively in a directory

- Can Use Regular Expressions!!

debugging

https://github.com/node-inspector/node-inspector

- Debug using webkit in the browser!!
- https://github.com/samartioli/node-basics#debug