Cast Project & Node.js
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May 5, 2011
Agenda

• Cast Project Intro
• Things we learned writing Cast & other Node.js software
Background

- Autoscaling is (mostly) a DIRTY DIRTY LIE
- Resources (servers, storage, etc) are easy to get now....
- What infrastructure is missing to make this work?
  - Deployment & Service Management.
  - NOT Configuration Management.
- Startup Mindset @ Cloudkick: Just Do it.
Cast Project

- Deployment as an HTTP API
- Install, Rolling Upgrades
- Stop, Start, Restart Apps
- Monitoring Apps
- Logging Apps
- App configuration (Think Zookeepr-lite)
Cast 0.1.0

• First release 2 weeks ago
• Focused on single machine experiences
• Roadmap and community are open:
  • http://cast-project.org/
• Open Source: Apache License 2.0
terminal action
Cast History

Cast - The Open Deployment Platform
Last updated about 16 hours ago

[Diagram showing commit distribution over time]
Cast History

Cast - The Open Deployment Platform
Last updated about 16 hours ago

'all commits'  'commits by owner'

52 week participation

'distracted'

Node.js 0.4
Lessons Learned
Use NPM

- There used to be alternatives.
- We ignored NPM
- Today:
  - Local module installs = #winning
  - Internal NPM registries = good for non-open source products
Community > *

- Careful of single author I’m learning node.js modules
Testing

• Do it. There is no compiler*.

• Started using Expresso.... unhappy.

• Wrote Whiskey

  • https://github.com/cloudkick/whiskey
http://cast-project.org/test-coverage/
Lint

- JSHint or jslint
- node-jshint
- Google Closure Linter:
Closure Compiler

- Use it as last step in linting.
- Detects many other common issues
- Static analysis of Javascript.
- Needs more dev work to fully understand Node modules.
lib/util/misc.js:126: WARNING - inconsistent return type
found : string
required: (String|null)
    return (text || '').replace(/\s/g, '_').replace(/[a-zA-Z0-9\-_]+/, '').toLowerCase();

lib/util/misc.js:136: WARNING - inconsistent return type
found : boolean
required: (Boolean|null)
    return version.indexOf('@') === -1;

lib/util/misc.js:162: WARNING - Function Errorf: called with 2 argument(s). Function requires at least 1 argument(s) and no more than 1 argument(s).
    throw new Errorf('Could not extract bundle name from the provided string: %s', fullBundleName);

lib/util/misc.js:199: WARNING - inconsistent return type
found : string
required: (String|null)
    return r.join('');

lib/util/misc.js:226: WARNING - condition always evaluates to the same value
left : (Boolean|null)
right: boolean
    if (strict === true) {

lib/util/misc.js:236: WARNING - inconsistent return type
found : number
required: (Boolean|Number|null)
    return i;

lib/util/misc.js:240: WARNING - inconsistent return type
found : boolean
required: (Boolean|Number|null)
    return false;

lib/util/misc.js:256: WARNING - condition always evaluates to the same value
left : (Boolean|Number|null)
right: boolean
    return (arrayFind(needle, haystack, strict, compareFunction) !== false);}
Express

- We didn’t use it. HTTP Servers are easy....
  - We rewrote half its features, badly.
- We are porting to it now.
TLS/SSL

- 0.2: Didn’t work
- 0.3: Rewrite it all, no big deal....
- 0.4: Mostly works
- >=0.4.6: Works
Streams

- Many problems < 0.4
  - File to HTTP would break, often.
- Mostly work now
  - Error handling is being improved
- Use pipe
Flow Control

• Async
  • https://github.com/caolan/async

• Step
  • https://github.com/creationix/step
Send Patches

- Ryan likes bugs fixed. Most are Javascript fixes at this point!
- It’s easy
  - make a test case
  - fix the code
  - make a pull request
• Slides:
  • http://paul.querna.org/slides/

• Code:
  • http://cast-project.org/
  • https://github.com/cloudkick
  • https://github.com/racker