

Automation of Node.js core workflows

@joyeecheung

<https://github.com/nodejs/summit/issues/108>

Not a serious talk

**You probably don't care if you
don't have to land commits in
nodejs/node**

If you are not a Node.js collaborator (yet)...

<https://github.com/nodejs/node/blob/master/GOVERNANCE.md#collaborator-nominations>

Collaborator Nominations

Any existing Collaborator can nominate an individual making significant and valuable contributions across the Node.js organization to become a new Collaborator.

To nominate a new Collaborator, open an issue in the [nodejs/node](#) repository, with a summary of the nominee's contributions, for example:

- Commits in the [nodejs/node](#) repository.
 - Can be shown using the link `https://github.com/nodejs/node/commits?author=${GITHUB_ID}` (replace `${GITHUB_ID}` with the nominee's GitHub ID).
- Pull requests and issues opened in the [nodejs/node](#) repository.
 - Can be shown using the link `https://github.com/nodejs/node/pulls?q=author%3A${GITHUB_ID}+`
- Comments and reviews on issues and pull requests in the [nodejs/node](#) repository
 - Can be shown using the links `https://github.com/nodejs/node/pulls?q=reviewed-by%3A${GITHUB_ID}+` and `https://github.com/nodejs/node/pulls?q=commenter%3A${GITHUB_ID}+`
- Assistance provided to end users and novice contributors

<https://github.com/nodejs/TSC/issues/392>

Proposal to form an automation working group (or team?) #392



joyeecheung opened this issue on Oct 21, 2017 · 34 comments



joyeecheung commented on Oct 21, 2017 • edited ▼

Member




I am proposing to form an automation working group that handles automation outside build (i.e. tools, bots and scripts that make our lives easier)

Related projects:


- [The Github bot](#)
- [node-review](#) (See [discussion](#) on moving them into the foundation)
- [branch-diff](#) and [changelog-maker](#) (See [discussion](#) on moving them into the foundation)
- [core-validate-commit](#) if [@evanlucas](#) agrees to move it into the foundation

https://github.com/nodejs/automation

 **nodejs** / automation


Unwatch 37


★ Star 47


 Fork 9


<> Code


! Issues 16

 Pull requests 1

 Projects 0

 Wiki

 Insights

 Settings


Better automation for the Node.js project


Edit


nodejs


node

Manage topics

 9 commits

 1 branch

 0 releases

 4 contributors

Branch: master ▾


New pull request

Create new file


Upload files


Find file


Clone or download ▾


 joyeecheung doc: remove gitter and mention IRC & build repo (#28) ...

Latest commit 7e4eaf0 21 days ago

 README.md doc: remove gitter and mention IRC & build repo (#28) 21 days ago

 enable-travis-under-nodejs.md doc: add guide on enabling Travis under nodejs (#19) 11 months ago

 README.md



Node.js Automation Team

The Node.js Automation Team focuses on building tools, bots and scripts that help Node.js collaborators maintain the Node.js project.

<https://github.com/nodejs/node-core-utils>

README.md



Node.js Core Utilities

npm v1.14.0 build passing build passing coverage 74% vulnerabilities 1

CLI tools for Node.js Core collaborators.

- [Tools](#)
- [Usage](#)
 - [Install](#)
 - [Setting up credentials](#)
 - [Make sure your credentials won't be committed](#)
- [Contributing](#)
- [License](#)

Tools

- `git-node` : Custom Git commands for working with Node.js core, e.g. landing Pull Requests.
- `ncu-config` : Configure variables for node-core-utils to use.
- `ncu-team` : Listing members of a team, synchronizing special blocks in files with the list of members

Who still remembers this?

Technical HOWTO

Clear any `am / rebase` that may already be underway:

```
$ git am --abort  
$ git rebase --abort
```

Checkout proper target branch:

```
$ git checkout master
```

Update the tree (assumes your repo is set up as detailed in [CONTRIBUTING.md](#)):

```
$ git fetch upstream  
$ git merge --ff-only upstream/master
```

Apply external patches:

```
$ curl -L https://github.com/nodejs/node/pull/xxx.patch | git am --whitespace=fix
```


Other Automation Projects (sort of)

- [branch-diff](#)
 - A tool to list print the commits on one git branch that are not on another using loose comparison.
- [changelog-maker](#)
 - A git log to CHANGELOG.md tool.
- [commit-stream](#)
 - Turn a git log into a stream of commit objects.
- [core-validate-commit](#)
 - Validate commit messages for Node.js core.
- [github-bot](#)
 - @nodejs-github-bot's heart and soul.
- [node-auto-test](#)
 - A [nodejs/node](#) clone for testing tools and bots.
- [node-review](#)
 - A browser extension that generates the metadata required for landing a Node.js Pull Request.

A few things that didn't work

- Monorepo <https://github.com/nodejs/automation/issues/12>
 - But you can argue node-core-utils is already a monorepo (we have v8-update migrated!)
 - But node-core-utils still depends on core-validate-commit
- Gitter
 - Back to IRC: good old #node-dev and #node-build
- @nodejs/automation & the team repo
- Moving repos under the automation team for better maintenance

Things that have been working

- node-core-utils
 - (or, just the git-node part?)
 - (anybody using ncu-ci? Or looking at nodejs/reliability?)
- Getting non-collaborators involved
 - Not a lot, but they exist!
 - <https://github.com/nodejs/node-core-utils/graphs/contributors>
 - Thanks, @priyankp10 and @alopezsanchez!

Things that can be improved

- Meetings....? To keep track of things
 - Or should we just report at build meetings..?
- Npm releases of node-core-utils
 - (anybody using npm link with master branch...?)
- Getting more people involved
 - Node-core-utils is just a Node.js CLI
 - Should we make the COLLABORATOR_GUIDE.md & CONTRIBUTING.md more approachable?
 - Better guides for new contributors?
- Tests

Things that can be improved

- Take more care of other projects that are not node-core-utils but are heavily depended by us
 - core-validate-commit
 - branch-diff
 - changelog-maker
 - **github-bot**
 - **github-bot**
 - **github-bot**

node-core-utils

- <https://github.com/nodejs/node-core-utils>
- git-node: custom git commands for managing Node.js core PRs
- ncu-ci: CLI for querying test results from Jenkins and display summaries, format them as JSON for analysis or markdown to be pasted on GitHub
- ncu-team: for synchronizing member lists in README.md

git node land

- Read credentials from ~/.ncurc (git access token)
- Query GitHub API to get data about the PR and the author
- Download README.md of nodejs/node (why are we still doing this?) and parse for list of TSC and collaborators
- Check a bunch of stuff (pr_checker.js), rules are mostly based on COLLABORATOR_GUIDE.md
- Start git commands interactively (landing_session.js), with states persisted to
 - .ncu/config
 - .ncu/<prid>/land
 - .ncu/<prid>/metadata
 - .ncu/<prid>/patch
 - .ncu/<prid>/<commit-id>-message

ncu-ci

Also capable of walking through all recent runs and see failures that fail more than 1 PRs (potential flakes)

Understands:

- <https://ci.nodejs.org/job/node-test-pull-request/>
- <https://ci.nodejs.org/job/node-test-commit/>
- <https://ci.nodejs.org/job/benchmark-node-micro-benchmarks/>
- (Would be nice to support <https://ci.nodejs.org/job/citgm-smoker/>!)

ncu-ci

How `ncu-ci walk` works

- Read credentials from ~/.ncurc (Jenkins API token)
- Query <https://ci.nodejs.org/job/<jobname>/<jobid>/api/json>
- Pick failed runs with result = FAILED
- Download console output from the failed runs, parse them with pattern matching rules (ci_failure_parser.js)
- Aggregate similar failures and group them into output that can be pasted as markdown
 - E.g. <https://github.com/nodejs/reliability/issues/18>

Next steps

- WPT updates <https://github.com/nodejs/node/issues/23192>
 - We shouldn't be copy-pasting by hand!
 - Part of git-node
- CITGM failure triage
 - Part of ncu-ci
- Help with releases
 - Follow <https://github.com/nodejs/node/blob/master/doc/releases.md>
- git hooks <https://github.com/nodejs/node-core-utils/issues/160>
 - Right now you have to run ``git node land --final`` proactively for checks before pushing
- Stealing ideas from git-cl? (git cl try, git cl issue, .etc)
 - <https://dev.chromium.org/developers/how-tos/depottools>
 - Open PR, kick off CI, merge PR, backport PR, open web pages from console...all in one command!
 - If the tool manage the branches and associations for you, it knows what to do out of the box