npm

node package manager

wtf is a npm?

- de facto package manager for node
- A way around dependency hell
- Beta, but pretty useful anyway
- Colorful, and lowercase
- One letter off from “nom”

installing npm

```
curl http://npmjs.org/install.sh | sh
```

(but first install node, of course)

These Slides

```
npm install npm-intro-slideshow
npm start npm-intro-slideshow
```

What, no sudo?

- don’t do package management with sudo!
- Packages can run arbitrary scripts!
- A PM with sudo is a chainsaw haircut!
- Don’t ever do this! (*SHAME* on you, dpkg!)
- instead: sudo chown -R $USER /usr/local

Under the Hood

- About 4kloc, but can be shrunk down a lot (much of that predates Streams)
- "root" config – folder where npm puts stuff
- The .npm folder in there has everything
- Sets up symbolic links and shims
- The filesystem is the database

npm isn't

- A module loader
- Something you include in your program
- Good for any other CommonJS platform
- A religion
- Complicated to use
- Only for publishing code

npm SUPER isn’t

- rubygems
- cpan
- pear
- tusk
- "easy_install"
- dpkg, apt-get, yum, rpm, homebrew, etc

npm help

- Lots of stuff, including a 12 second intro.
- Use help. A lot. It’s incredibly helpful.
- When it isn’t, post a bug. (It tells you how.)
- `man npm` also works on most systems.
- As of npm@0.1.24, also put --help, -h, or -? on any command to get help on it.

What’s out there?

- npm ls – shows installed/remote/latest/etc.
- Currently: 167 projects, in 481 sparkling versions, from 110 node users!

wtf is a package?

- A folder with a package.json, or a tarball
- An opaque blob of functionality with a clearly defined entry point.
- Internally, structure it however you want. npm cares not for convention.

wtf is a json?

- npm help json
- A package.json file describes your package.
- It's json. WAAAAYYY easier than ant's xml.
- name, version, main. That's all you need.
- It's not hard and it's extra helpful. Do it.
- Otherwise, code how you like.

installing stuff

- npm install <pkg>
- npm help install
- Can install name, name@version, tarball url/path, package root path
- `npm install` with no args installs $PWD

updating stuff

- npm update
- npm help update
- Installs the new versions, sets up dependent packages to point to new thing, if ok.
- Brand new in npm@0.1.23!
- Sparkly and shiny! Probably a little broken!

Development

- npm link
- npm help link
- Give it a folder, and it’ll do it up link-style. Changes are reflected immediately.
- If no args given, then it links $PWD
- Installs dependencies and devDependencies

Development

- npm is a development tool.
- It’s not "for" publishing. That’s just something it can do.
- It’s "for" playing.
- If it's not fun, something is broken.

Dependency Hell

- Most systems have a single root namespace
- Including something means that is the only version that exists for everyone.
- That sucks, and is dumb.

Escaping DH

- npm can install multiple versions of the same thing.
- Because require.paths is mutable, it can manage who gets which versions of what.
- That means, you get what you depend on, even if someone else depends on another version of the same thing.

Paths

- The same techniques for escaping DH also can ensure that relative links work.
- require("dep") for dependencies.
- require("./path/to/stuff") for your modules.
- Even cli scripts!
- If it works in your code folder, it'll work when npm installs it.*

*Unless it doesn't.

Acquiring Fame

- npm adduser
- npm help adduser
- Enter username, password, email.
- Creates an account on the registry.
- Also use it to set up existing account.
- If it gets screwed up, just ask for help.

Acquiring Fame

- npm publish
- npm help publish
- Give it a folder, tarball, or tarball url.
- If no arg supplied, it does $PWD
- Packs up your kit and sends to the registry.
- Now it can be installed, updated, etc.

The Registry

- http://registry.npmjs.org/
- code: http://github.com/isaacs/js-registry
- pretty: http://npm.mape.me/
- A simple couchapp
- Will be node-powered in the future.

configuration

- npm config
- npm help config
- Config options read from 5 places:
  cli, env, userconfig, globalconfig, defaults
- Configs are a prototype chain, because I think that's hot, and npm exists primarily for my amusement.

configuration

- C: npm config ls --foo bar
- E: npm_config_foo=bar npm config ls
- U: echo "foo = bar" > ~/.npmrc
- G: echo "foo = bar" > /usr/local/etc/npmrc
- D: edit lib/utils/default-config.js and send me a pull request.

configuration

- cli or env can set "userconfig" file
- cli, env, or user can set "globalconfig" file
- Yes, you *can* configure npm to behave however you want it to.

other goodies!

- npm test – Run a test script
- npm start/stop/restart – Run stop/start scripts
- npm unpublish – Remove a thing from the registry. Please don't do this much. It's a bit rude.

The Future!

- http://github.com/isaacs/npm/issues
- npm remote install <pkg>
- Hook into OS start/stop scripts
- Bundle pkg+deps into self-contained thing
- A smarter registry that understands dependencies, handles failed uploads, displays package docs/src/stats, etc.

my secret...

- Writing a package manager looks hard.
- It isn't hard. It's actually easy and fun.
- You should try it.
- They'll let you talk at meetups.

thanks.