

# Build it Better?

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# What are you automating?

- Single Deployment with third party dependencies
- N-Tier co-ordinated set of applications (DB, service, web, mobile)?
- Suite of core architectural modules shared across multiple teams, applications, departments?
- Vetting and updating enterprise software using third party open source modules?



# What's in a tool?

- **Dependency Management**
  - Transitive (dependency of dependencies)
  - Scope (test, compile, run...)
- **Dependency Conflict Resolution**
- **Task Automation**
  - Testing, Packaging, Distributing, Reporting
- **Configuration Management**
  - Dependency Sets
  - Shared configurations

# Dependency Management

- Find packages
- Find / Install all dependency dependencies

A tool is only as good as the popularity of the repository / registry\*

\*or adaptability...

# Dependency Management

- Maven Central
  - Google Code
- Codehaus
- Mojo
- NPM
- Bower + Github
- Component
- Many, many more



# Task Runner

- Build (compile, generate, test)
- Report (lint, metrics)
- Release (modules, apps)

A tool is only as good as its plugin ecosystem\*

\* or flexibility of its configuration

# Configuration Management

- Multi-module projects
- Corporate Standards

How do you manage large co-operative codebases DRY?

# Reference Application: Angular PhoneCat

- Angular tutorial App
- Angular Seed Setup
- node http server script
- karma testing
- angular e2e testing
- Dependencies included in app/lib app/css



# Yeoman aka Grunt, Bower, NPM

- > npm install yo

- > yo

Pick your generator and options

- > npm install

- > bower install --save

- > grunt

# Gruntfile.js

- Is a JS file
- Config blocks
- Script Blocks

example-yeoman-grunt-bower-npm

# package.json, bower.json

- Json
- Use the tools

example-yeoman-grunt-bower-npm



# Development Lifecycle

Grunt provides server with file watcher and live reload.

- > grunt server

- > update files

grunt reprocesses to dist folder

- > check in browser

# Maven – Jetty - Webjars

- [www.webjars.org](http://www.webjars.org) : James Ward maven groupId for container organized libraries.
- Jetty : lightweight container / server
- Maven with plugins
  - jetty
  - Jasmine
  - Yui compressor
  - Less?

# Webjars

- Simple pom files pulling down, repacking libraries for use in containers.
- Designed to run as jar file in WEB-INF
- contains minified & unminified & related resources.
- Mvn jetty:start → browse-able resources.
- Versioned\* - good or bad depending.



# Jasmine Plugin

- HtmlUnit or phantomjs
- Hard to get all resources loading well
- Preloads vs your scripts
- Script runner
- TDD mode watching and refreshing

# Development Lifecycle

- > mvn generate
  - > add dependencies to pom.xml
  - > mvn install
  - > mvn jetty:run
- /src/main/webapp – see changes live
- > mvn jasmine:bdd
  - > mvn clean install
- run post dev processing (less, min etc.)

# Gradle

- > `./gradlew`
- > `./gradlew test`
- > `./gradlew build`

gradle example provided by Marty Blood



# build.gradle

- Is a groovy script file
- Config blocks
- Script blocks

build-it-better gradle

# Build compile

- Extend any task, class of task

build-it-better gradle/buildSrc

# Javascript

- <https://github.com/eriwen/gradle-js-plugin>
- <https://github.com/eriwen/gradle-css-plugin>
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# Hybrid Patterns

- Maven Dependencies
- Maven/Gradle Download + Unpack
- Grunt Build & Develop
- Maven/Gradle Package & release

# Audience Participiaption

Other shout outs?

# Maven + NPM

- Mulesoft provides plugin for downloading npm modules – Java only no node

<https://github.com/mulesoft/npm-maven-plugin>

- Npm modules are not always dependencies you think they are:

<https://npmjs.org/package/angular>



# wro4j

- Develop pure Javascript/CSS
- Build and/or runtime processing

# Codehaus / Mojo/ Maven tools for JavaScript developers

- Last Published: 2011-12-09 | Version: 2.0.0-SNAPSHOT
- Js-import-maven-plugin → manually installing js AND creating dependency poms as needed.