Behavioral Economics and Chatbots

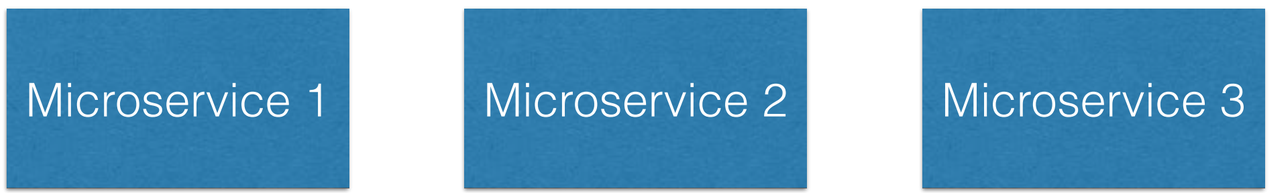
Psychology	Technology
Nudge Theory: altering decision making	Actionable Messages
Value-Action Gaps	Event Handlers
Information Deficits	ChatOps
Diffusion of Innovation	Scheduling Goals

NUDGE DEMOS

- Follow the Leaders
- Libbits
- Value action gaps
- Setting Goals
- maintaining presence
- Causing ISSUES

FOLLOW THE LEADER

- What version of this library is everyone else using?
- Has anyone already tried version X
- Are any of our projects using libraries with known vulnerabilities?



Demonstration
of
Follow the Leader

Observe: Unmet goals

Orient: Goals -> Libraries -> Projects -> Channels

Decision: time for a PR? Set new target?

Actions: raise a Pull Request OR set new guidance

HOW DOES THIS WORK?

- onCommit:
  - Record diffable representations of data (like library version)
  - Record lots of shas
- onPush:
  - Provide diff events to drive nudges

12:55 PM **atomist** APP

Target version for library **com.atomist/clj-config** is **14.3.0-20180607150151**
Currently **13.1.1** in atomisthq/incoming-webhooks

Accept | Set as target | Ignore

12:55 PM

Target version for library **org.clojure/clojure** is **1.9.0**
Currently **1.8.0** in atomisthq/incoming-webhooks

Accept | Set as target | Ignore

Target version for library **diehard** is **0.7.0**
Currently **0.5.0** in atomisthq/incoming-webhooks

Accept | Set as target | Ignore

Last action: "Accept" by slimslenderslacks today at 1:01 PM

Target version for library **com.atomist/kafka-lib** is **6.0.2**
Currently **2.3.1** in atomisthq/incoming-webhooks

Accept | Set as target | Ignore

Demonstration of Libbits

Observe: changes to code within a project

Orient: Code Fingerprints -> Branch refs -> Projects -> Channels

Decision: useful?

Actions: accept/reject PR

Value Action Gaps

3:25 AM @ankushchadha wants to merge 1 commit from atm-060b10cd-0bd6-4883-845b-4911fa9c3b41 to orbitera

slimslender/project-examples

#26 Update dependencies due to XRay Violations

org.apache.wicket:wicket:1.3.7 => [7.0.0-M3]

• CVE-2014-3526: Apache Wicket before 1.5.12, 6.x before 6.17.0, and 7.x before 7.0.0-M3 might allow remote attackers to obtain sensitive information via vectors involving identifiers for storing page markup for temporary user sessions.

org.apache.struts:struts2-core:2.3.14 => [2.3.24.1]

• CVE-2015-5209: Apache Struts 2.x before 2.3.24.1 allows remote attackers to manipulate Struts internals, alter user sessions, or affect container settings via vectors involving a top object.

slimslender/project-examples | Jun 13th

Request Review | Enable Auto Merge | Comment | 👍

@ankushchadha

`bd51df6` Update dependencies due to XRay Violations

No checks

Feedback | Jun 13th

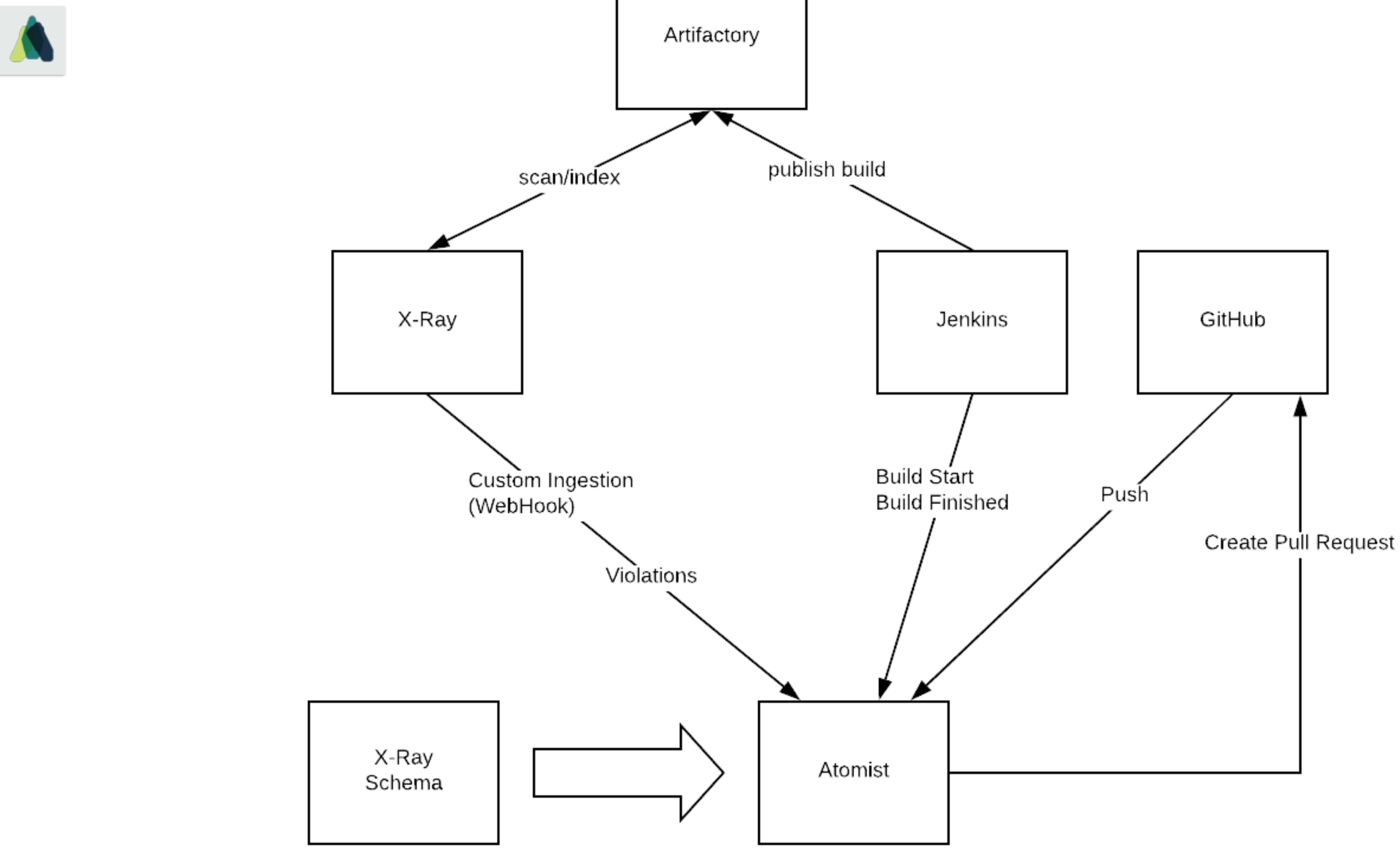
Merge | Squash and Merge | Rebase and Merge

atomist APP 12:02 PM

Created issue in xray XRAY-N3

Incoming Xray Security Issue (edited)

> **ATOMIST-142**: “Found:
> **commons-fileupload:commons-fileupload:1.2.2**
>
> There is no known fix for this issue
>
> What can I do for you now, Dave?
>
> **Block all downloads** **Ignore for this project**


Artifactory
scan/index
publish build
X-Ray
Jenkins
GitHub
Custom Ingestion
(WebHook)
Build Start
Build Finished
Push
Create Pull Request
Violations
X-Ray
Schema
Atomist

Observe: new Security Issue

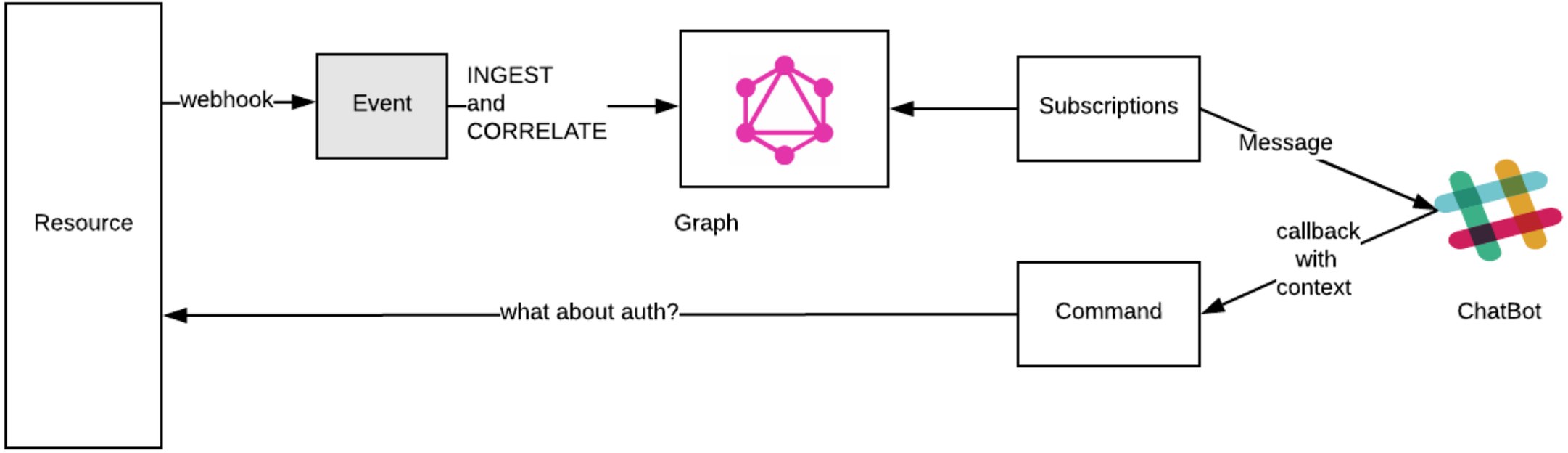
Orient: some projects are affected

Decision: upgrade the lib? Block the download of the lib?

Action: raise a Pull Request/call an API

VALUE ACTION GAPS

- Commands are important but …
- Do you know when a Command could benefit from a nudge?
- Present timely options
- Lower the barrier to Action



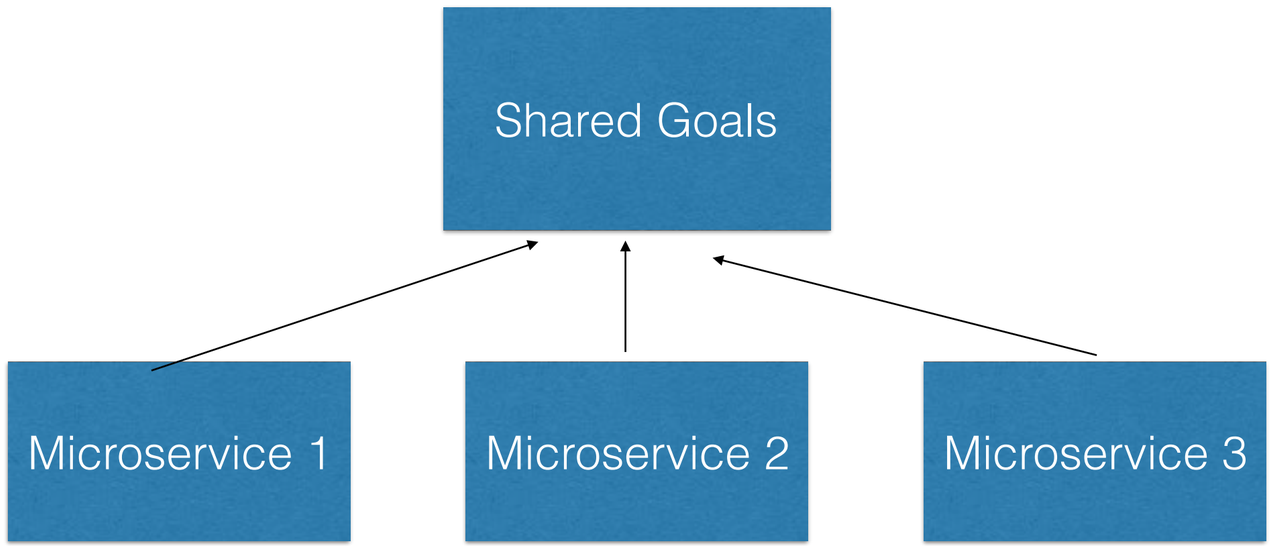
type XrayViolation {
watch_name: String!
issues: [XrayIssue]
}
type XrayIssue {
severity: IssueSeverity!
type: IssueType!
provider: IssueProvider!
summary: String!
description: String!
impacted_artifacts: [XrayArtifact]
}
register schema
get new webhook
new queries/new subscritions
JFrog Xray
Webhooks
Edit Webhook "atominst- ngestion"
General
Webhook Name *
atominst-ingestion
URL *
https://webhook.atomist.com/atomist/teams/AM1E5VJ
GraphQL Browser
GraphiQL
Prettify
History
1
{XrayViolation {issues {severity}}}

Setting Goals

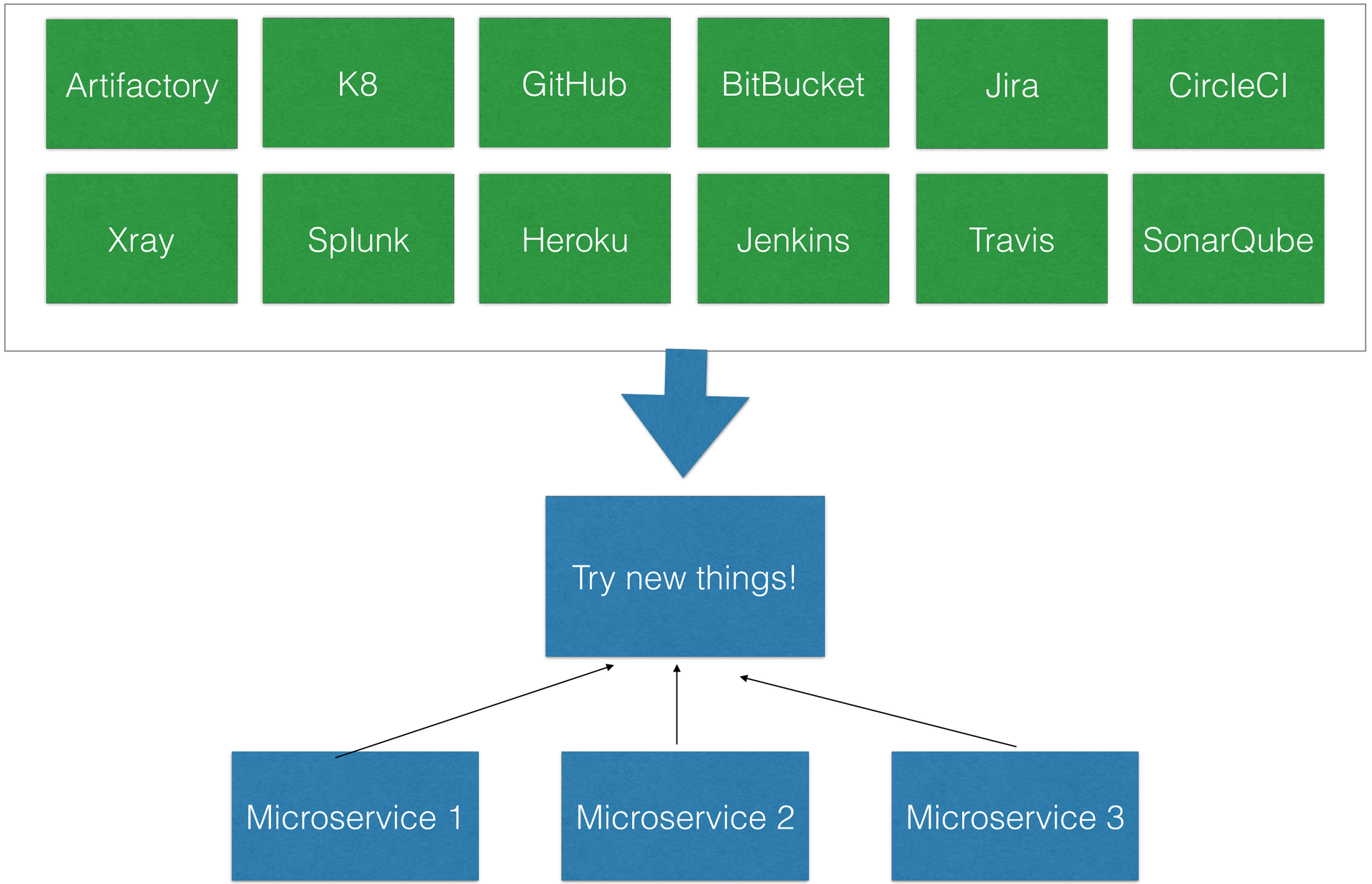
INNOVATION DIFFUSION

How different are the delivery “goals” for these three projects?

MAKE IT EASY TO SHARE



KEEP OPTIONS OPEN



5:01 PM 1 new commit to **atomist/clojure-sdm/master** (edited)

@kipz

`464fe56` Fix lintig errors - you're welcome hal ✅ Build #59

atomist/clojure-sdm | Yesterday at 5:01 PM

✅ NPM package | npm/atomist/package

Goals

✅ Autofixed
✅ Code review passed
✅ Versioned
✅ Build successful
✅ Published | Link
✅ Docker build successful
✅ Tagged

Show less

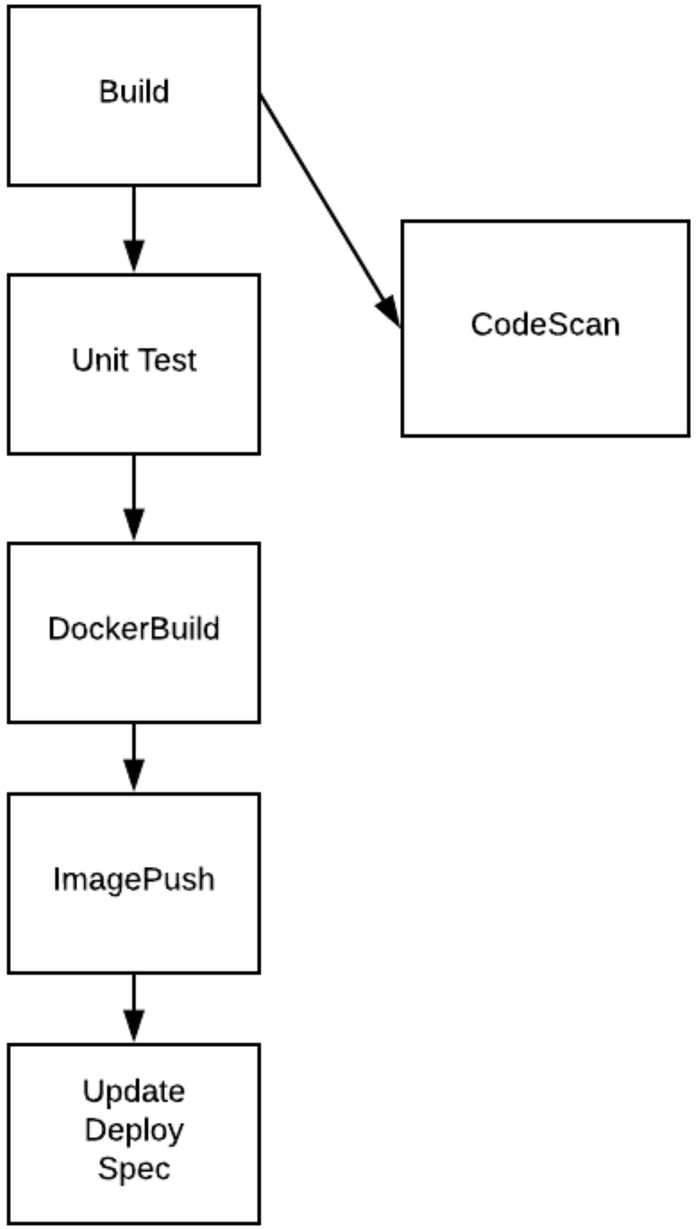
⏸ Deployed to Kubernetes namespace `sdm`
Planned: publish docs
Planned: increment version
Planned: release Docker image
Planned: release NPM package

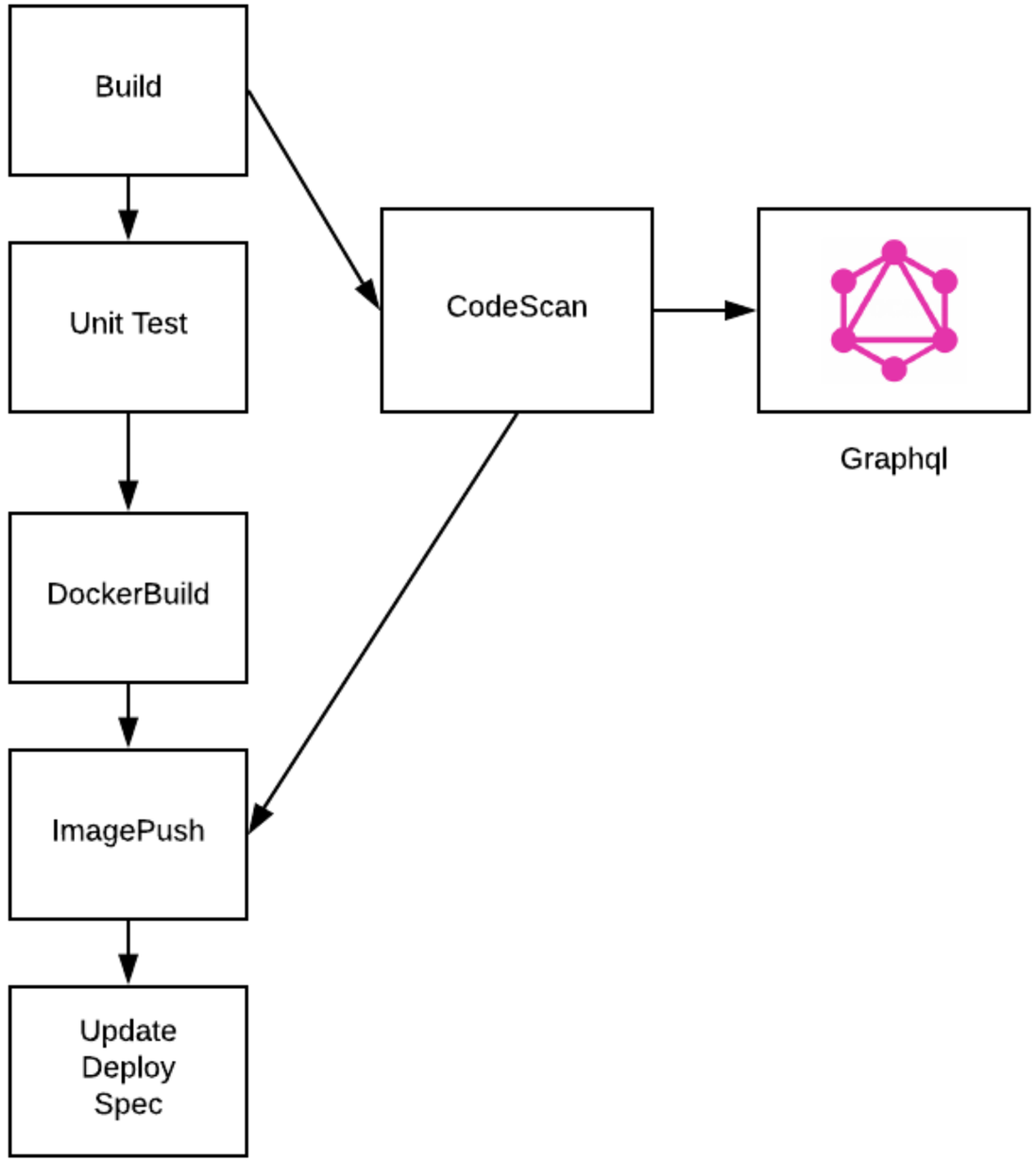
Show more

@atomist/atomist-sdm:0.1.3-20180625130306 | Simplified Deploy | b715d54 | 3m 29s | Yesterday at 5:04 PM

Approve 'deploy to Prod'

ALWAYS BE IMPROVING





Maintaining Attribution

@tanya-coding wants to merge 1 commit from enum-args to master (edited)

atomisthq/pochta

#229 Add filter arguments for enum fields

Related to #227

atomisthq/pochta - atomist:merge-on-approve | Today at 2:29 PM

Request Review | Comment | 👍

Suggestions

atomist-bot

whostolebenfrog

Everybody

request different reviewer

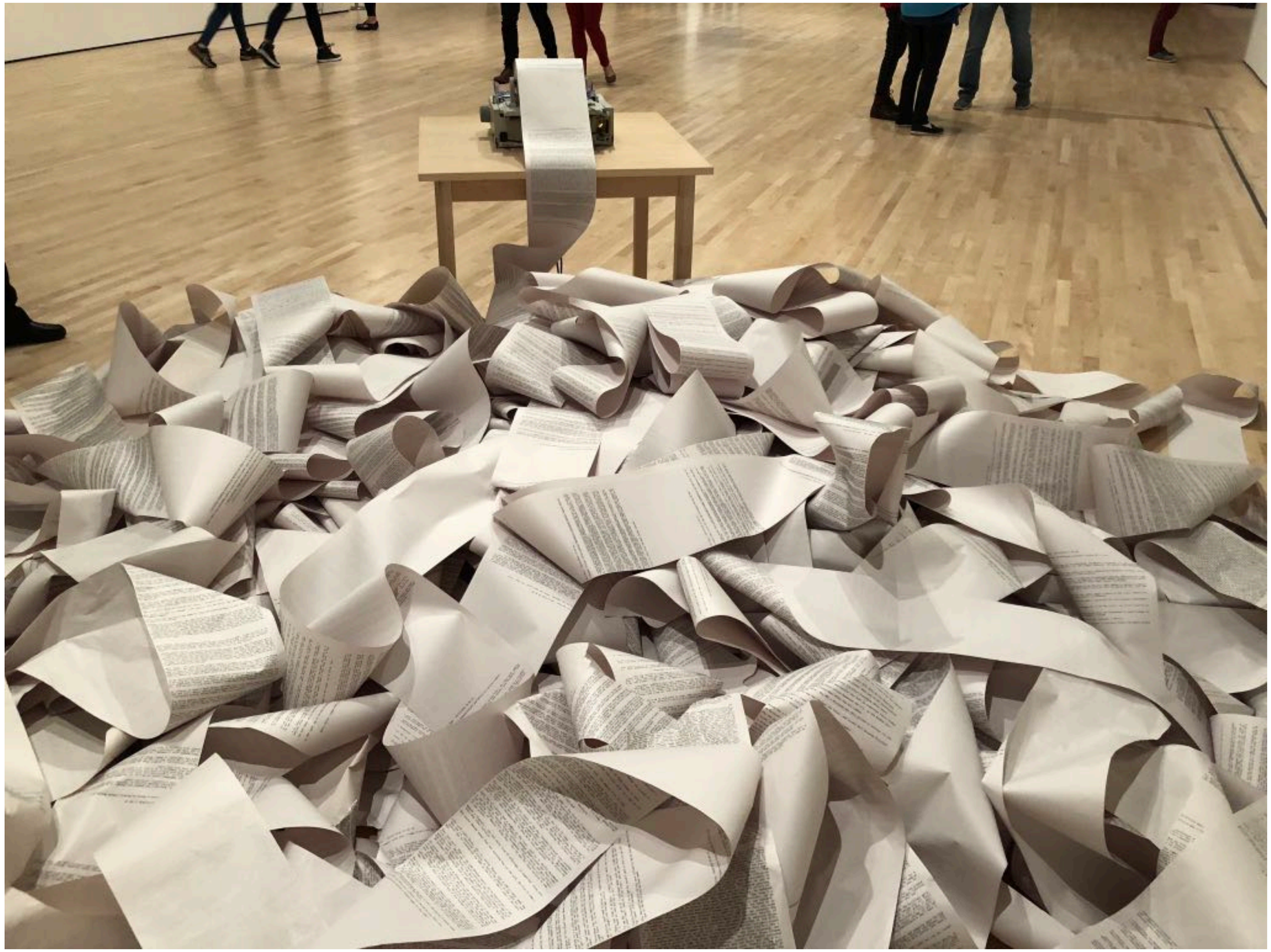
fields Build #31

#227: Custom type root enum fields don't get args

Feedback | Today at 2:29 PM

Start a th

Code Examples



Bots we like	Bots we don't like
inform you of options	bad command lines
Do things on behalf of **you**	Do things as the bot
Help you to see what you need to see	Spray you with a data hose

SUMMARY

- Predict when a command is relevant and present it in context
- Make it easy to do the things that align with your values
- Always be learning
  - New projects should not be hard to start
  - Lower the barrier for trying things
  - Lower the barrier for good ideas spreading
- Bots
  - not mobile CLIs
  - Agents to facilitate collaboration
  - Automate in a social context

THANKS!

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