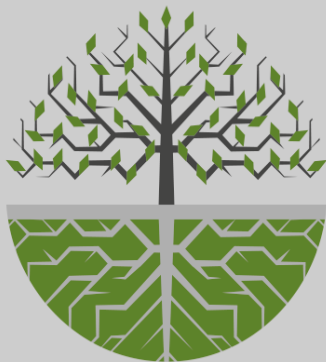




APACHE SLING & FRIENDS TECH MEETUP
BERLIN, 25-27 SEPTEMBER 2017

Scaling up development of a modular code base
Robert Munteanu – Adobe Systems Inc

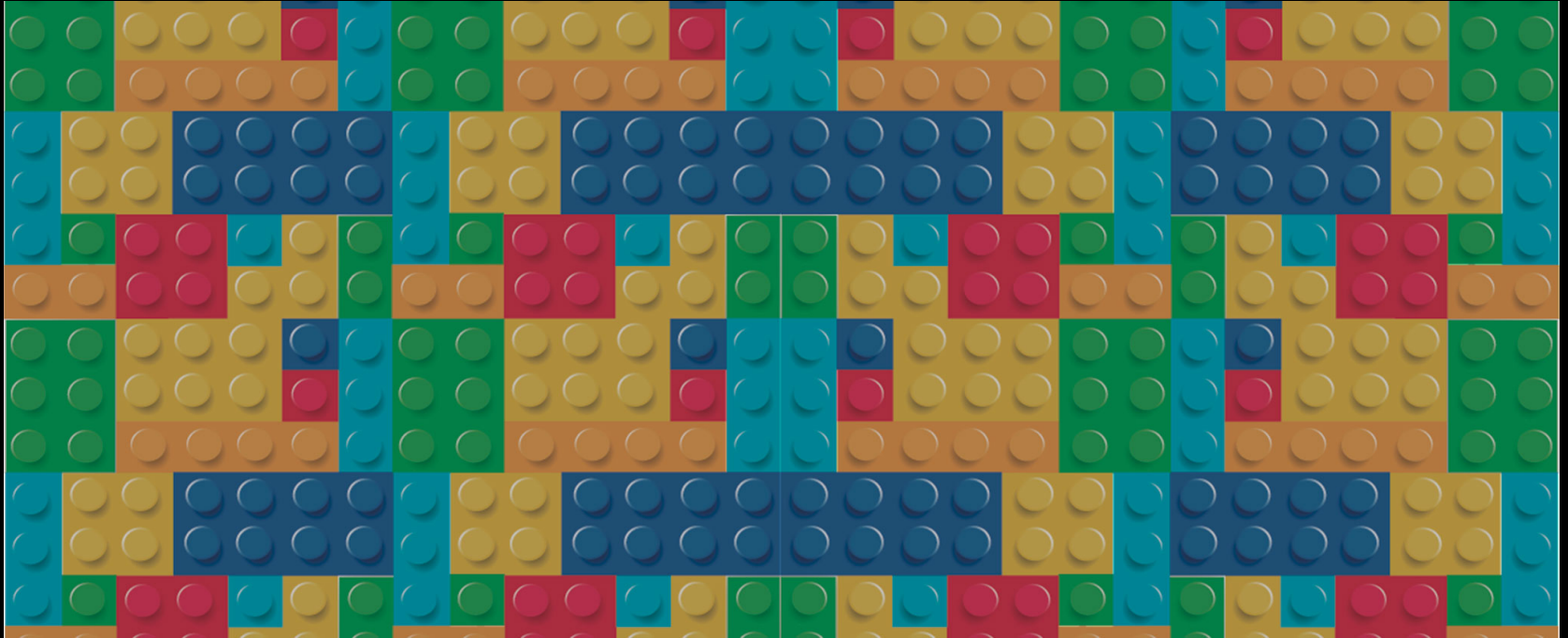


@rombert

- Modular development
- Source control
- Build tool and continuous integration
- (Integrated) development environment
- Communication
- Wrap-up

Modular development

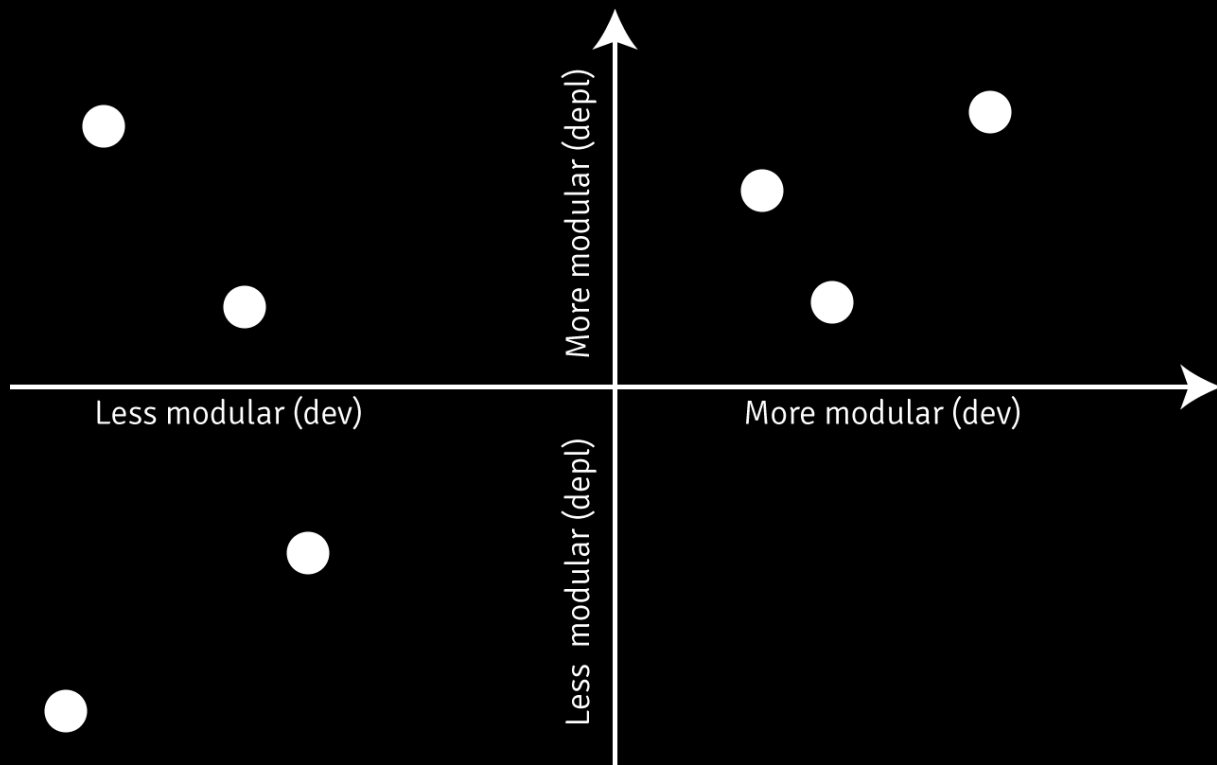
What is modular development?



Modular development vs modular deployment

Development/Deployment	Not Modular	Modular
Not Modular	I	II
Modular	III	IV

Modular development vs modular deployment



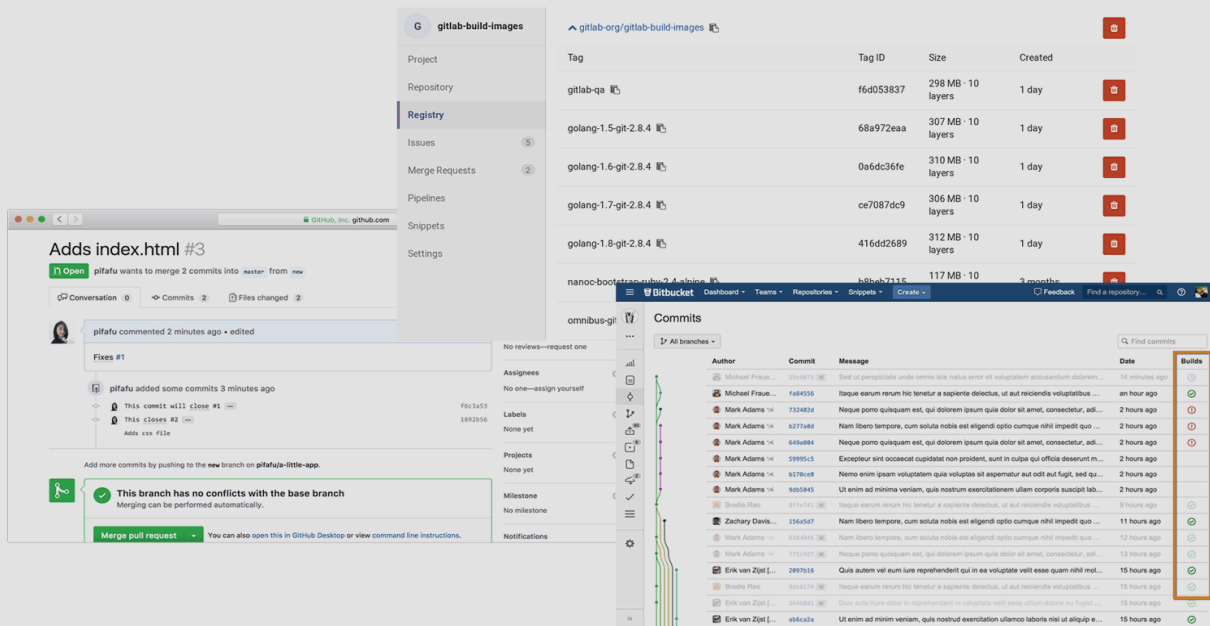
Source control

Source control: to split or not to split



```
$ svn checkout  
https://svn.apache.org←  
    /repos/asf/sling/trunk sling  
# change, commit atomically  
$ svn ls https://svn.apache.org←  
    /repos/asf/sling/tags | wc -l  
1478
```

Source control: multiple repositories



The screenshot displays a web interface for managing source control and Docker images. On the left, a sidebar shows navigation options: Project, Repository, Registry (selected), Issues (5), Merge Requests (2), Pipelines, Snippets, and Settings.

The main content area is divided into two sections. The top section, titled "gitlab-build-images", shows a table of Docker images:

Tag	Tag ID	Size	Created
gitlab-qa	f6d053837	298 MB - 10 layers	1 day
golang-1.5-git-2.8.4	68a972eaa	307 MB - 10 layers	1 day
golang-1.6-git-2.8.4	0a6dc36fe	310 MB - 10 layers	1 day
golang-1.7-git-2.8.4	ce7087dc9	306 MB - 10 layers	1 day
golang-1.8-git-2.8.4	416dd2689	312 MB - 10 layers	1 day
nanoc-bootstrap	68bcb711c	117 MB - 10 layers	2 months

The bottom section, titled "omnibus-git", shows a list of commits with columns for Author, Commit, Message, Date, and a "Builds" column. The "Builds" column contains a series of green and red circular icons indicating the status of builds for each commit.

On the left side of the interface, a "Merge pull request" dialog is visible, showing details for a pull request titled "Adds index.html #3". It includes a list of commits, a "Fixes #1" section, and a "Merge pull request" button. A green checkmark indicates that the branch has no conflicts with the base branch.



Source control: repo (Android)

```
<?xml version="1.0" encoding="UTF-8"?>
<manifest>
  <remote name="origin" fetch=".." />
  <default revision="master" remote="origin" />
  <project path="api" name="api.git"/>
  <project path="impl" name="impl.git"/>
</manifest>
```

```
$ repo init -u git@github.com:org/manifest.git
$ repo sync
$ repo start new-feature api/ impl/
$ repo forall -c 'git push ...'
```



Source control: repo automation

```
#!/bin/sh
```

```
echo '<?xml version="1.0" encoding="UTF-8"?>'
echo "<!-- generated by $(basename $0) -->"
echo '<manifest>'
echo '  <remote name="origin" fetch="."/>'
echo '  <default revision="master" remote="origin"/>'

for repo in $(curl -s https://api.github.com/users/rombert/repos?sort=updated \
  | jq '.[[] | .name | match ("TMP-sling-org.apache.sling.*") | .string' | tr
-d '"' | sort); do
  name=${repo#TMP-sling-}
  echo "    <project path=\"${name}\" name=\"${repo}.git\"/>"
done
echo '</manifest>'
```



Source control: migrating to individual repositories

```
$ git clone https://github.com/apache/sling.git sling
$ git clone sling org.apache.sling.engine

$ cd org.apache.sling.engine
$ git filter-branch --subdirectory-filter
bundles/engine
$ git for-each-ref --format="% (refname)"
refs/original/
    | xargs -n1 git update-ref -d

$ ls # only data in bundles/engine
```



Build tool and continuous integration

$$R = \prod r_i$$





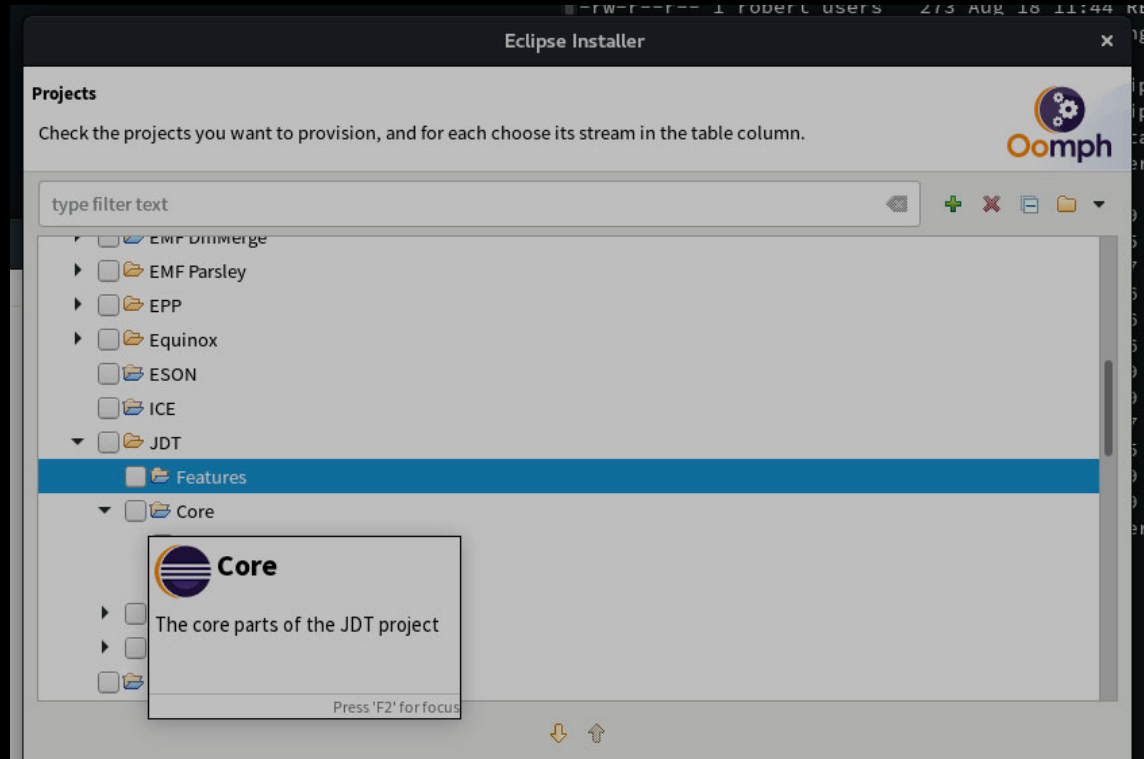
Build tool: automating creation of module builds

```
def modules = [
  [
    location: 'bundles/api'
  ],
  [
    location: 'bundles/auth/core'
  ] /* many others skipped */
]

modules.each { module ->
  jdks.each { jdkKey ->
    mavenJob(jobName(module.location, jdkKey)) {
      logRotator {
        numToKeep(15)
      }
      triggers {
        snapshotDependencies(true)
        scm('H/15 * * * *')
      }
      goals("-U clean deploy")
      /* other instructions skipped */
    }
  }
}
```



(Integrated) development environment





IDE: shared preferences

```
<!-- package your preferences as a Maven artifact --->
<dependency>
  <groupId>org.acme.tooling</groupId>
  <artifactId>acme-eclipse-formatter</artifactId>
  <version>1.0-SNAPSHOT</version>
  <packaging>eclipse-formatter</packaging>
</dependency>

<!-- configure the plugin in your parent pom -->
<plugins>
  <plugin>
    <groupId>ro.lmn.maven.rip</groupId>
    <artifactId>eclipse-preferences-maven-plugin</artifactId>
    <version>0.0.2</version>
    <extensions>true</extensions>
    <configuration>
      <repository>
        <kind>jira</kind>
        <url>https://issues.apache.org/jira</url>
      </repository>
      <commitTemplate>${task.key} - ${task.description}\n\n</commitTemplate>
    </configuration>
  </plugin>
</plugins>
```

Communication

Communication: single channel

- [Openstack] OpenStack Keystone HA and Pacemaker on Ubuntu *Imran Ahmed*
- [Openstack] [openstack-dev] [PTG] Video interviews at PTG, now scheduling *David Moreau Simard*
 - [Openstack] [openstack-dev] [PTG] Video interviews at PTG, now scheduling *Rich Bowen*
- [Openstack] [heat] *Lars-Erik Helander*
- [Openstack] Neutron MySQL issues. *Ken D'Ambrosio*
- [Openstack] [FEMDC] IRC meeting Today 15:00 UTC *lebre.adrien at free.fr*
- [Openstack] [openstack][pike][neutron] *Jai Singh Rana*
- [Openstack] [heat] default collectors *Volodymyr Litovka*
- [Openstack] [Fuel] Danube Fuel 10 compute node base system partition size *Jim Okken*
- [Openstack] [cinder] [nova] Inconsistency *Sinan Polat*
- [Openstack] Upload image to specific cinder backend *Ray Sun*
- [Openstack] MTU on Provider Networks *John Petrini*
 - [Openstack] MTU on Provider Networks *Remo Mattei*
 - [Openstack] MTU on Provider Networks *Curtis*
 - [Openstack] MTU on Provider Networks *John Petrini*
- [Openstack] QEMU/KVM crash when mixing cpu_policy:dedicated and non-dedicated flavors? *Tomas Brännström*
 - [Openstack] QEMU/KVM crash when mixing cpu_policy:dedicated and non-dedicated flavors? *Steve Gordon*

Browse all 855 channels

[New channel](#)

Sort by Channel Name & Membership ▼

Channels you can join

android-random

Created by Steve Cary (OOO) on August 25th, 2015

Random Android news and discussion

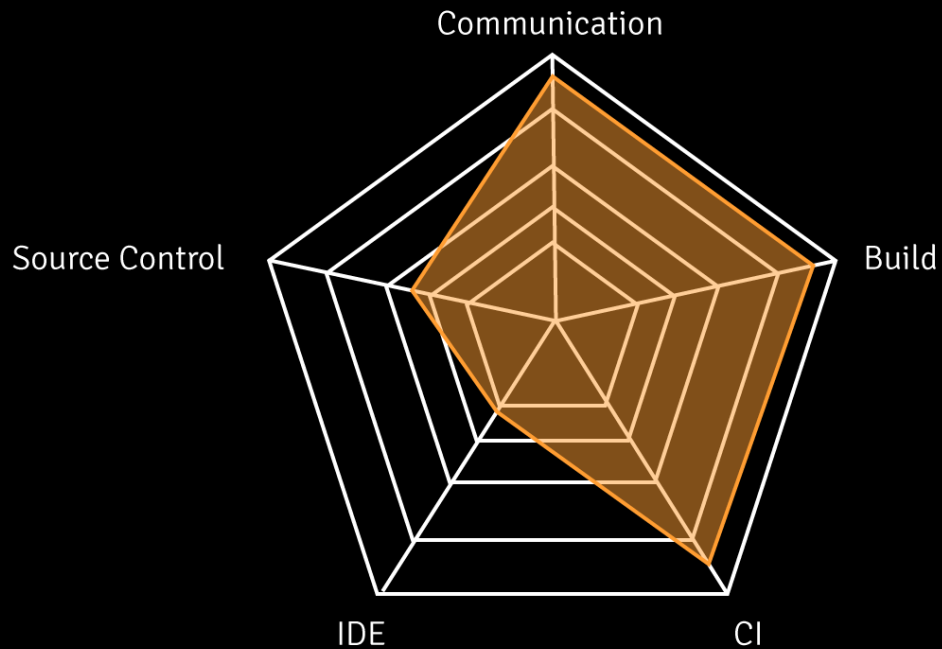
 preview

ios-team-random

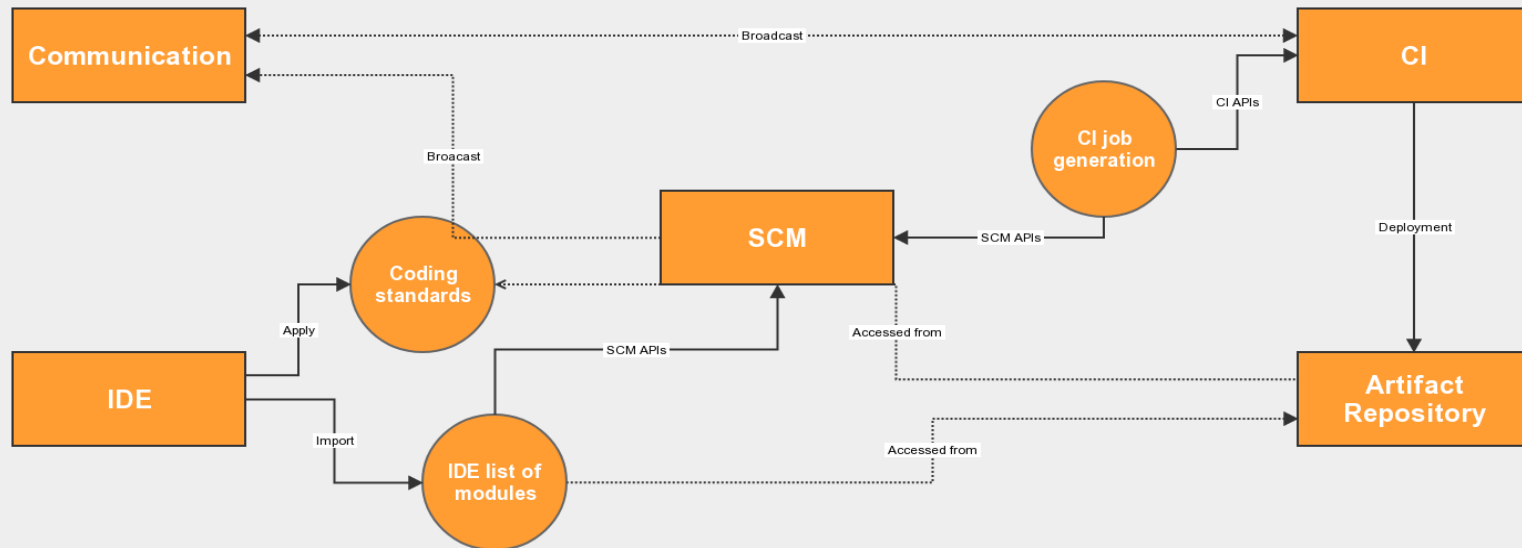
 11



Wrap-up







- <https://github.com/jenkinsci/job-dsl-plugin>
- <https://gerrit.googlesource.com/git-repo/>
- <https://projects.eclipse.org/projects/tools.omph>
- <http://www.catb.org/~esr/reposurgeon/reposurgeon.html>

- <https://svn.apache.org/repos/asf/sling/trunk/tooling/jenkins/>
- <https://github.com/wcm-io-devops/eclipse-maven-plugin>
- <https://github.com/bdelacretaz/docker-jenkins-dsl-ready>
- <https://wiki.openstack.org/wiki/MailingListEtiquette>