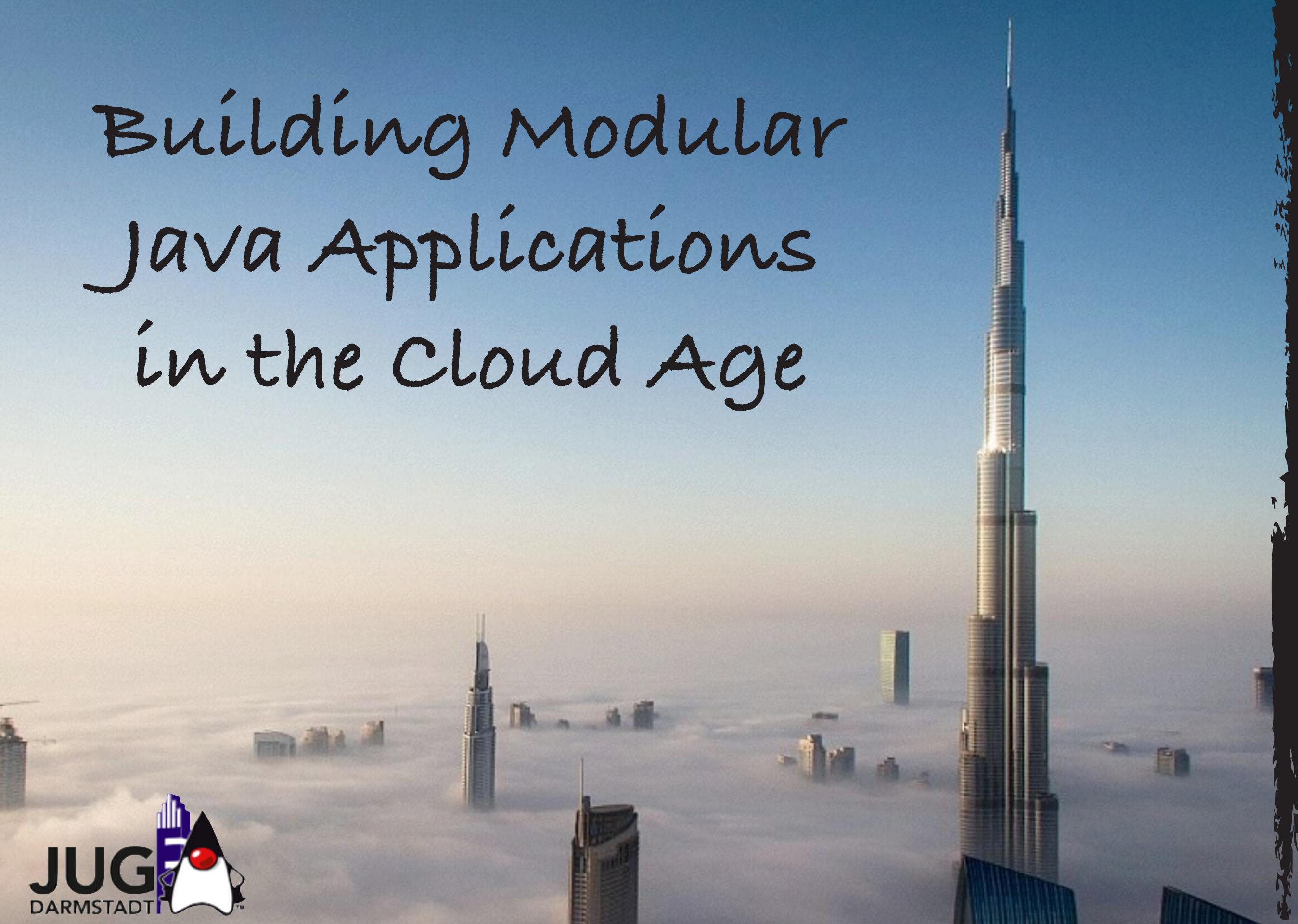


Building Modular Java Applications in the Cloud Age



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+

modular

About me



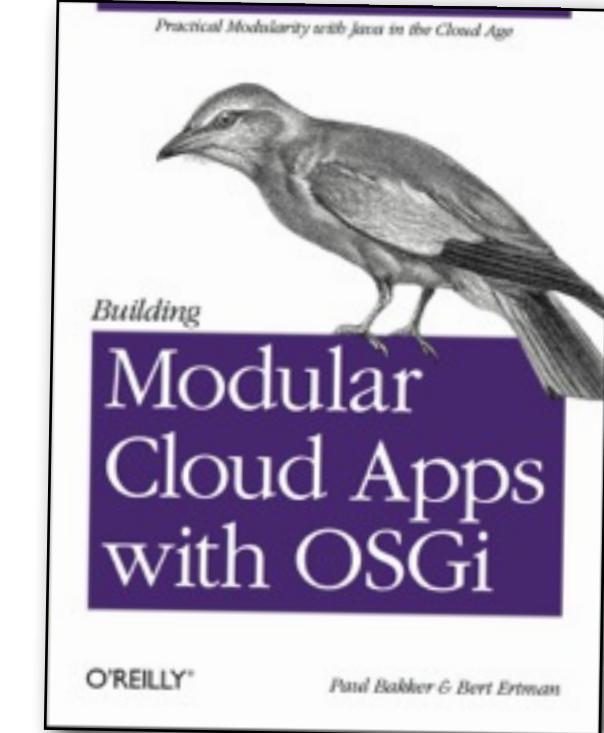
Bert Ertman

Fellow at Luminis (Netherlands)
JUG Leader for NYJUG
Java Champion

bert.ertman@luminis.eu



@BertErtman



observations

- Extremely agile
(first mover advantage)
- Architecture (and code base)
should be able to cope with change

Trend

- Applications tend to grow bigger and more complex
- Agile development and refactoring have become more common

This leads to a number of challenges :

Dependency
management

versioning

Maintenance
(long term)

Deployment



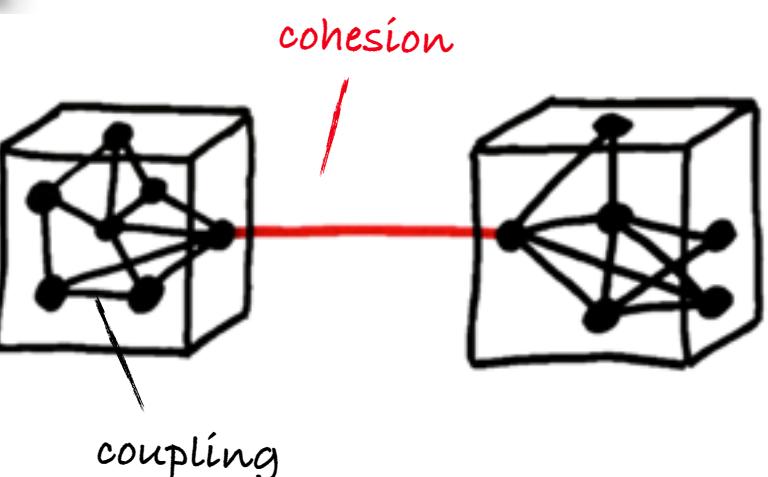


Modularity
is the answer

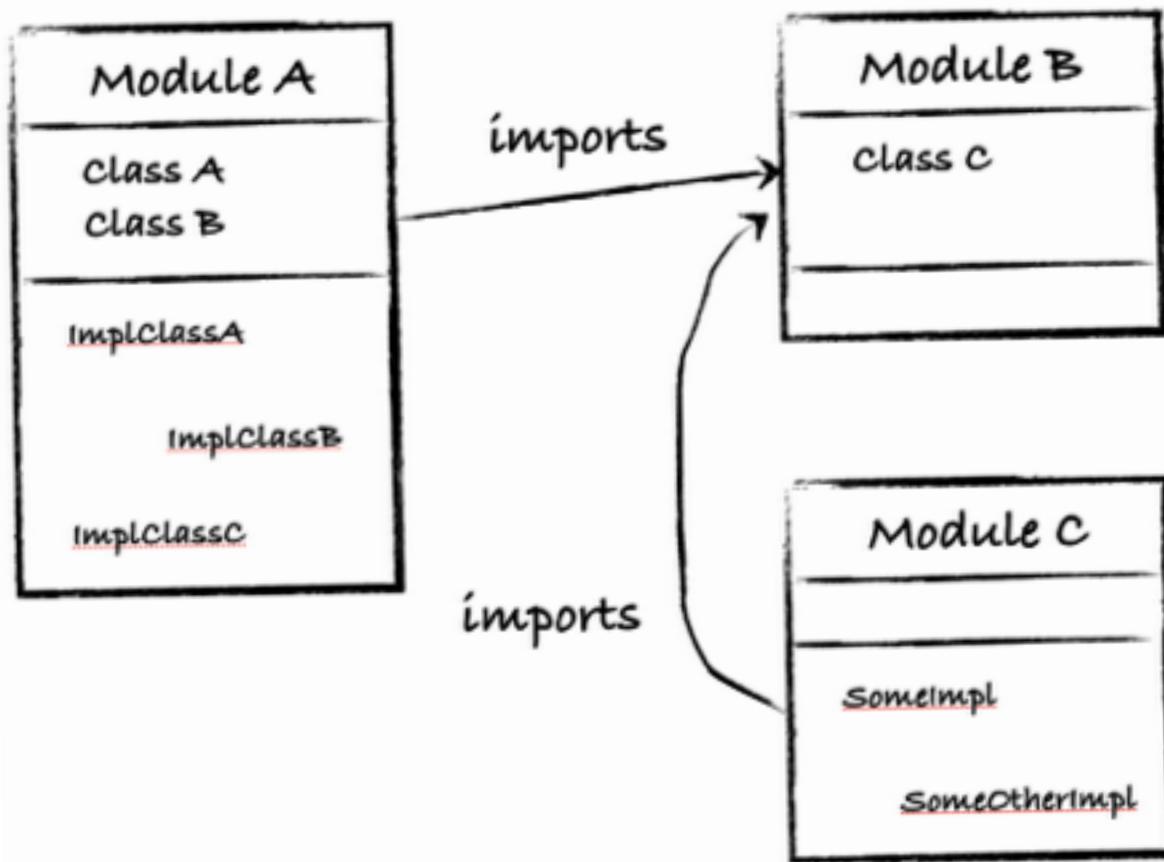
What we learned about OO design in university :

Prevent
(tight)
coupling

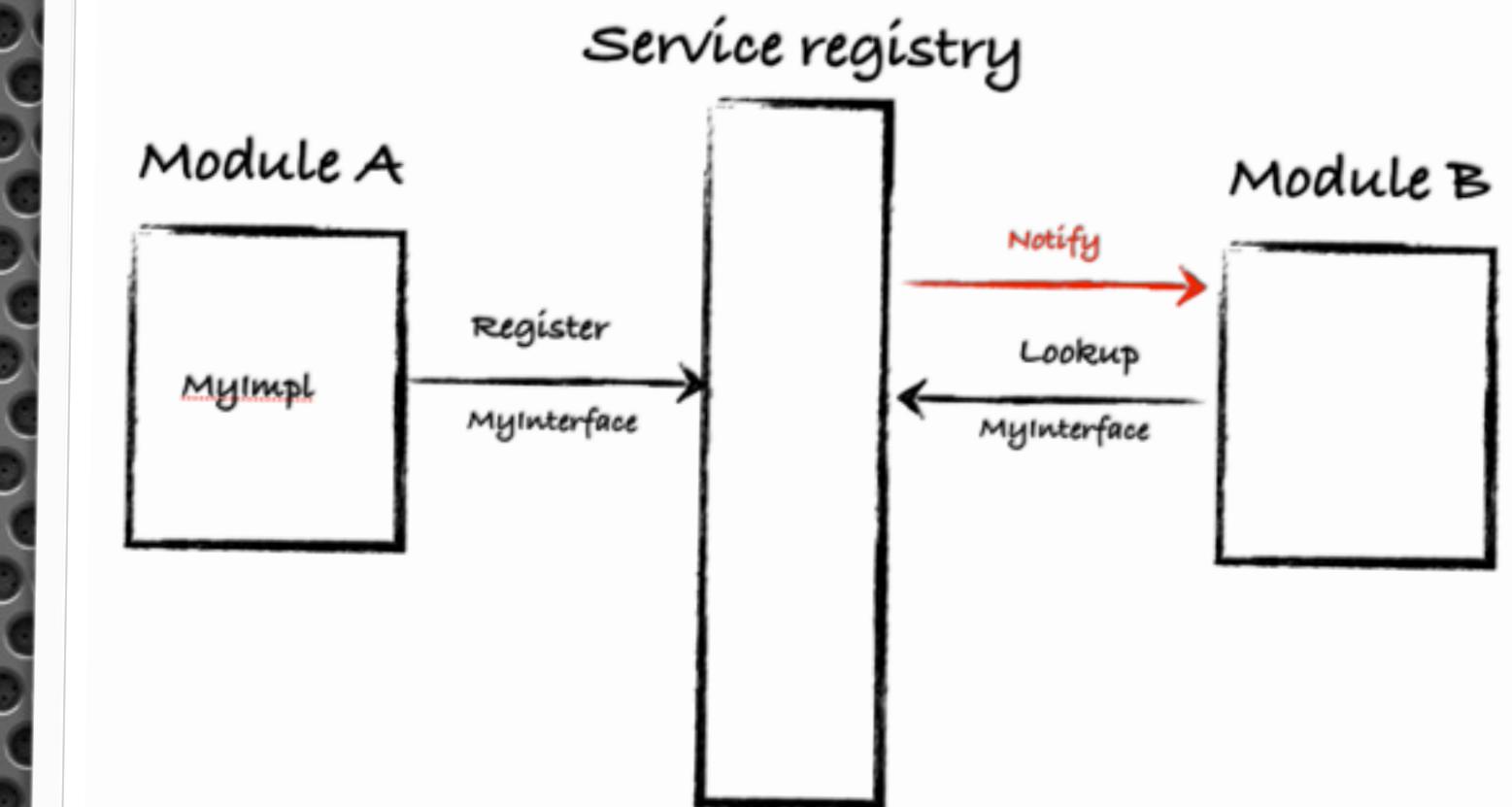
Promote
cohesion



Modules



Service Lookups





Stop talking...
and show me code!



Back to the cloud...

Requirements:

- Modern web app
- UI mostly offloaded to clients or devices
- Document driven interaction
- Integration via REST API
- Web scale data store
- Multi-tenant
- Elasticity

Typical architecture

HTML 5 + JavaScript

RESTful services

OSGi services

Apache Felix

Mongo

S3

Components

- Auth
- Blob stores
- MongoDB
- Multi-tenancy
- OpenSocial
- Search
- Remote Services
- REST
- Template
- Web
- ...



Let's Add **AMDATU**
to our stack



- Architectural focus on modularity
- Runtime dynamic services
- High level API

Typical architecture

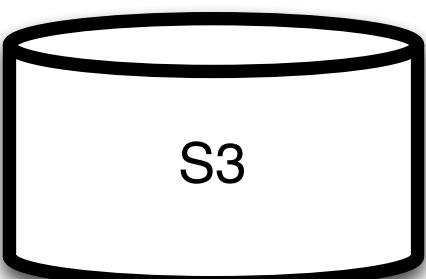
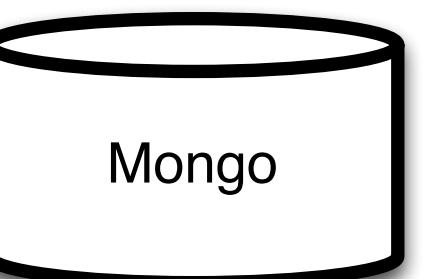
HTML 5 + JavaScript

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RESTful services

OSGi services

Apache Felix

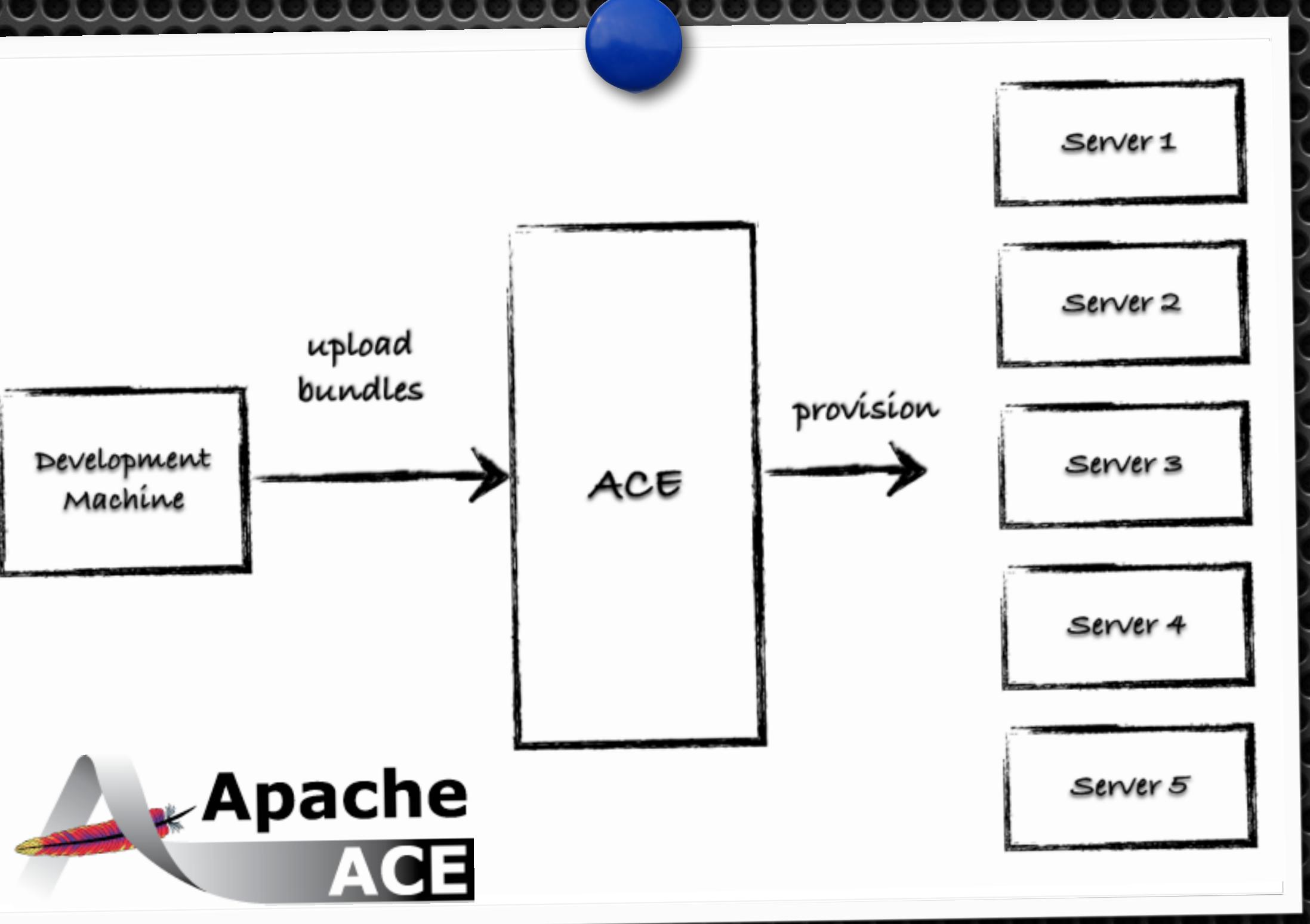


Demo



what about
deployment?

Provisioning Server

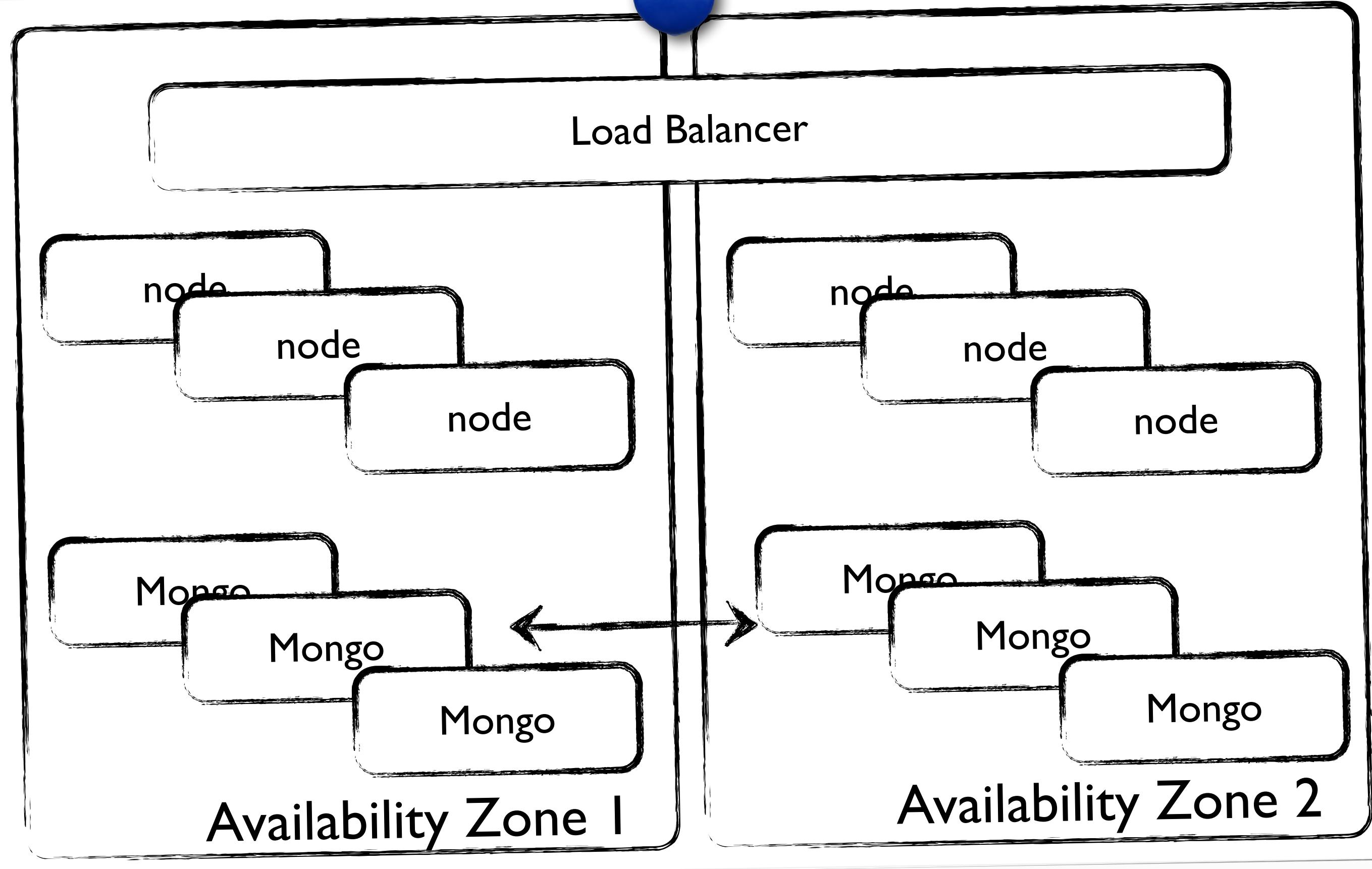


Demo

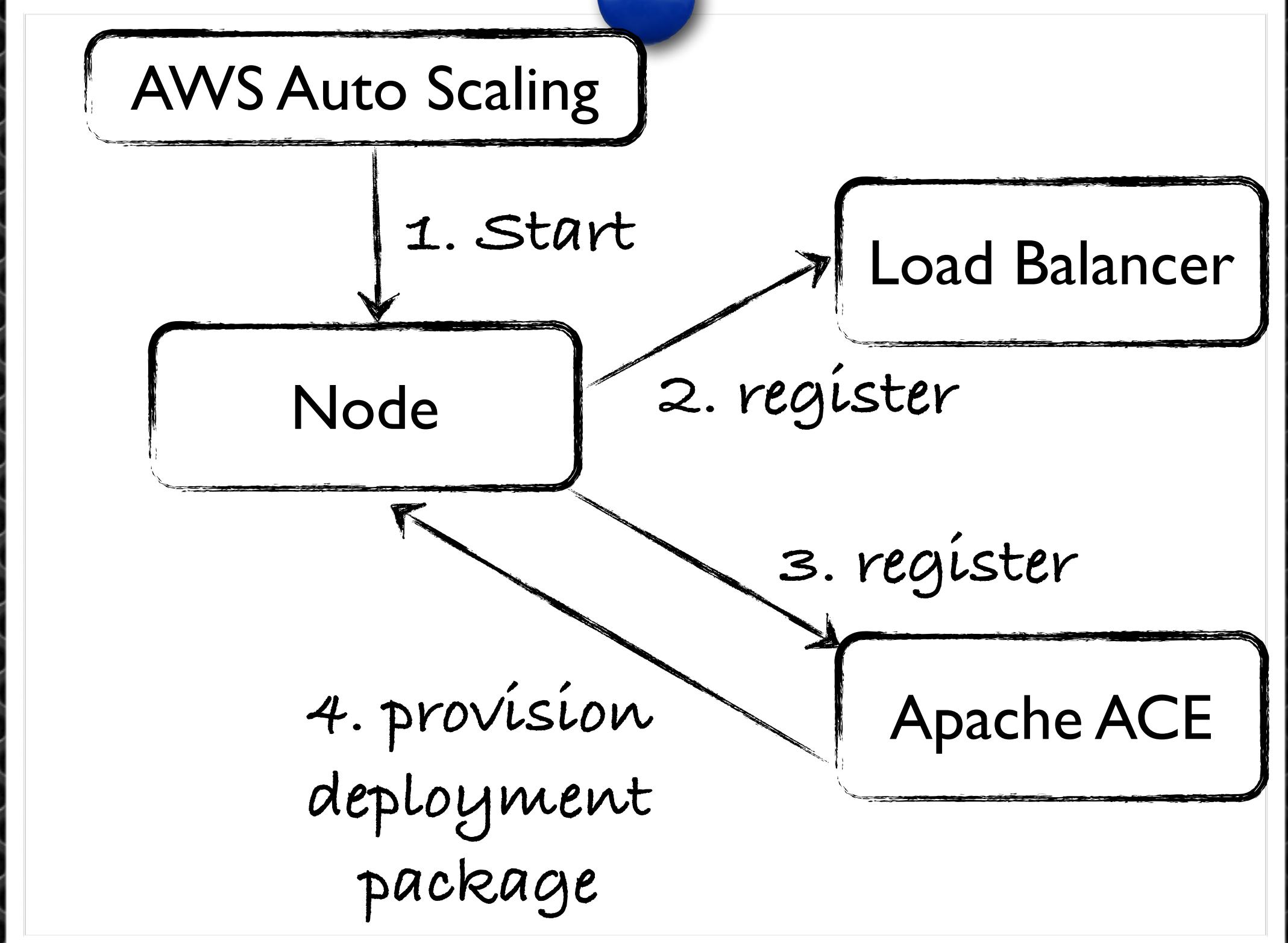
Auto scaling

Enough
capacity

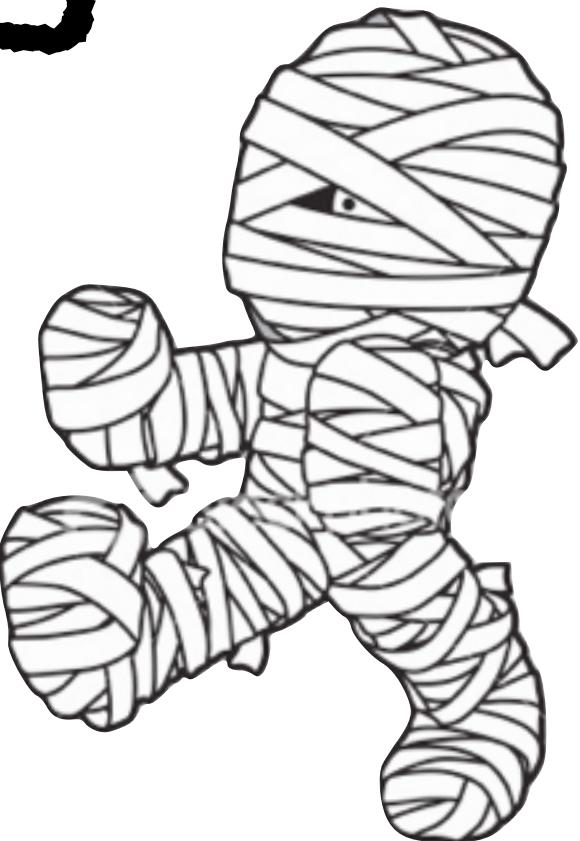
Without paying
for idle servers
at night...



Auto scaling



wrap up



The case for modularity

Modularity is the
ultimate agile tool!

- Small, disposable, components
- Prevents code rot on the architectural level
- Isolate problems, focus on work

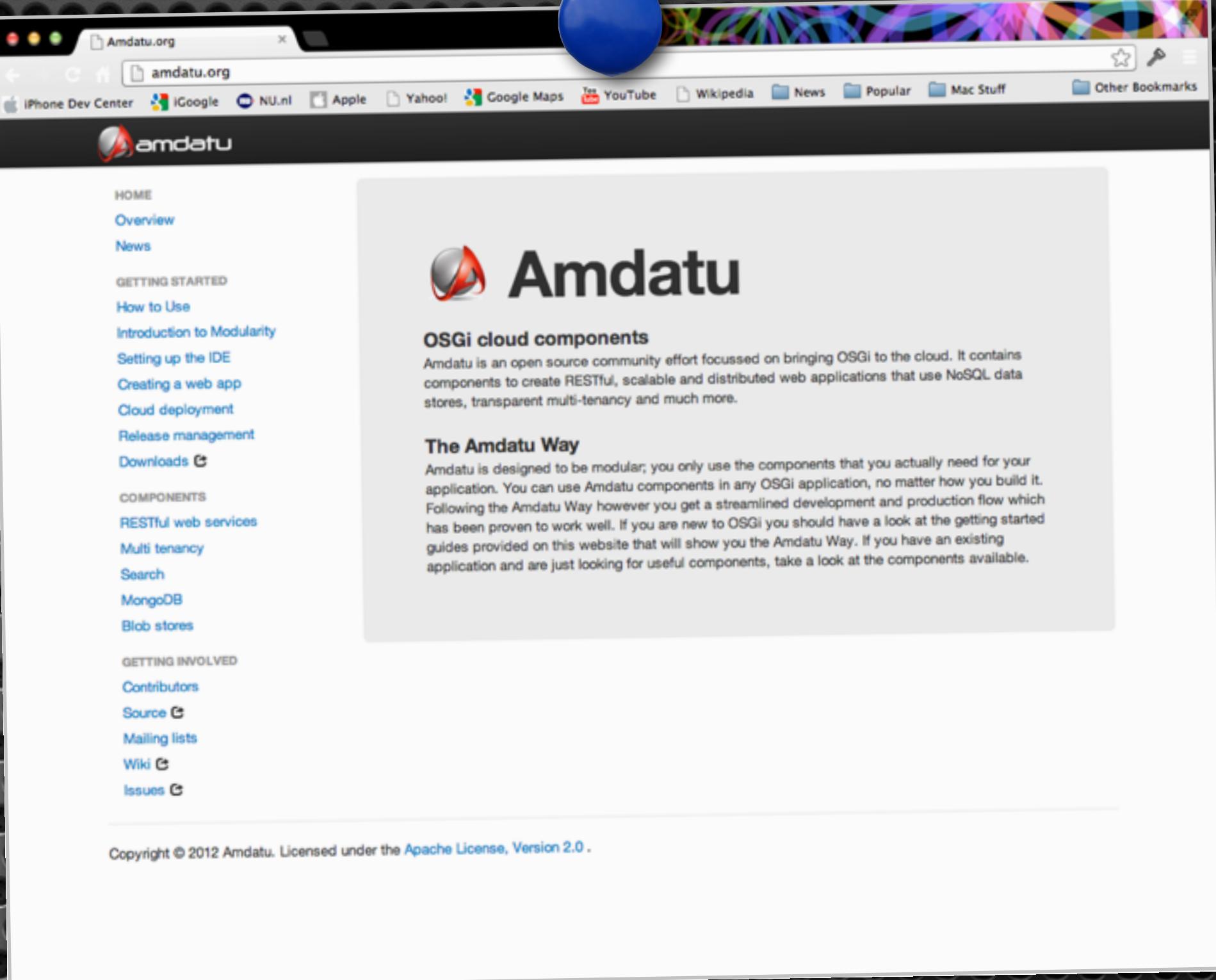
Practical Modular Java in the Cloud Age

Building

Modular Cloud Apps with OSGi

O'REILLY®

Paul Bakker & Bert Ertman



The screenshot shows a web browser window displaying the Amdatu.org website. The URL 'amdatu.org' is visible in the address bar. The page features a dark header with the Amdatu logo and navigation links for 'HOME', 'Overview', 'News', 'GETTING STARTED', 'How to Use', 'Introduction to Modularity', 'Setting up the IDE', 'Creating a web app', 'Cloud deployment', 'Release management', and 'Downloads'. Below this is a section titled 'COMPONENTS' with links for 'RESTful web services', 'Multi tenancy', 'Search', 'MongoDB', and 'Blob stores'. Further down are sections for 'GETTING INVOLVED' with links for 'Contributors', 'Source', 'Mailing lists', 'Wiki', and 'Issues'. The main content area contains the Amdatu logo and the heading 'OSGi cloud components', followed by a brief description of the project's focus on bringing OSGi to the cloud. At the bottom, there is a copyright notice: 'Copyright © 2012 Amdatu. Licensed under the Apache License, Version 2.0.'

survey.berterman.com

first two persons to fill out
a 5* survey get a book

dank u

Obrigado

Merci

Grazie

Gracias

Danke

Thank
you

Mahalo

Takk