Developing portable PaaS applications
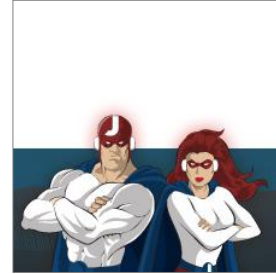
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First Things First

Thanks!

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Agenda?

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Agenda

- PaaS in a very small nutshell
- Introducing TweetStore
- Making TweetStore portable
- Integration Testing
- Continuous Integration & Deployment
- Portable PaaS: make sense (yet)?

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PaaS in a Nutshell

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PaaS in a Nutshell

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PaaS in a Nutshell

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PaaS in a Nutshell

- "Application-scoped" deliverable
- Platform handles scaling, monitoring, deployment
- App service catalogue
- Multi-language *eventually*
- Pluggable *eventually*
- Hybrid *eventually*

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PaaS in a Nutshell

Access via library

Access via console or command line API

Messaging

Scheduling

Delayed Jobs

Persistence

Deployment

Runtime Status

Monitoring

Billing

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Introducing TweetStore

Introducing TweetStore

A multi-cloud library, right?

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Introducing TweetStore

- jclouds demo web application

- Guice & Spring versions

- Originally written for Google App Engine

- Now also on RUN@cloud, OpenShift Express, Cloud Foundry

- In progress: Heroku Cedar, DotCloud, Amazon Elastic BeanStalk

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Introducing TweetStore

Welcome!

Click here to see tweets about jclouds.

powered by
Google App Engine

Tweets in Clouds

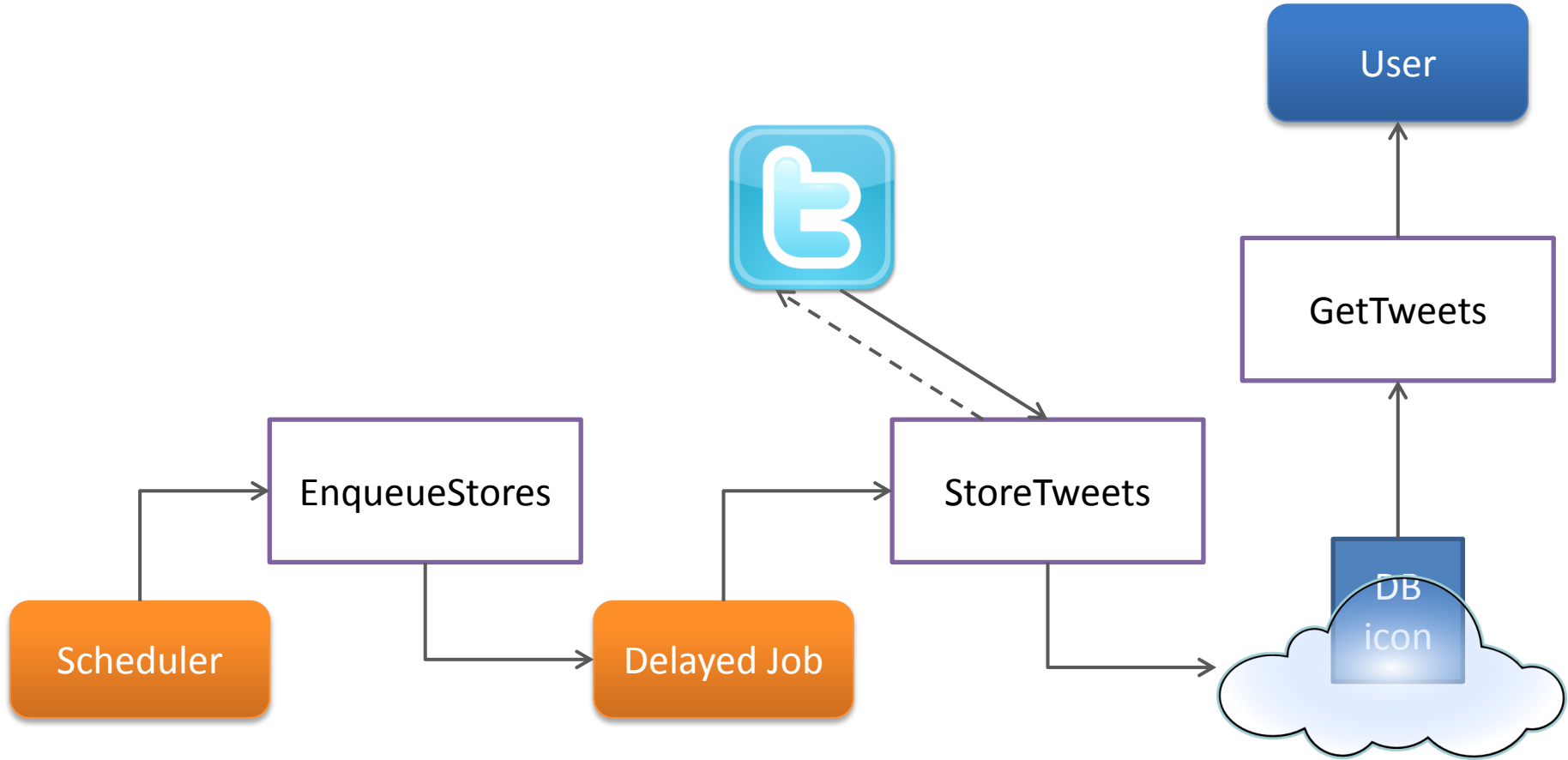| Tweet ID	Who Said it	Tweet
163585760287662080	Pay4PlayAnalyst	The #iaas Daily is out! http://t.co/bvUWZbt3 ? Top stories today via @markwilkinz @cjdailey @j
163585760287662080	Pay4PlayAnalyst	The #iaas Daily is out! http://t.co/bvUWZbt3 ? Top stories today via @markwilkinz @cjdailey @j
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164312412273639424	reillyusa	The Christian Reilly Daily is out! http://t.co/mthWDY3f ? Top stories today via @jordanrinke @ps
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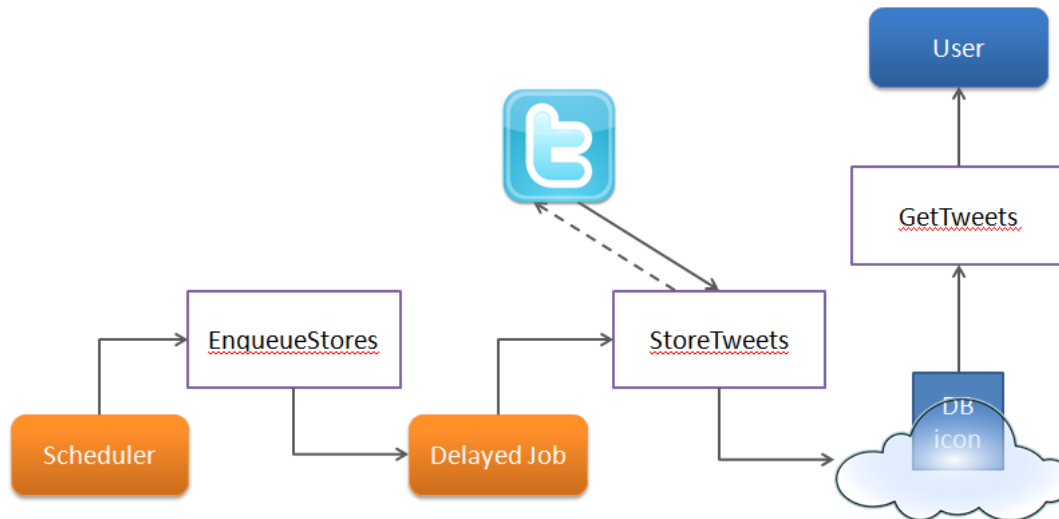@jclouds

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Introducing TweetStore

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Introducing TweetStore

- Using "in-application code" for persistence
- No messaging

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Making TweetStore Portable

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Making TweetStore Portable

- Different app services available

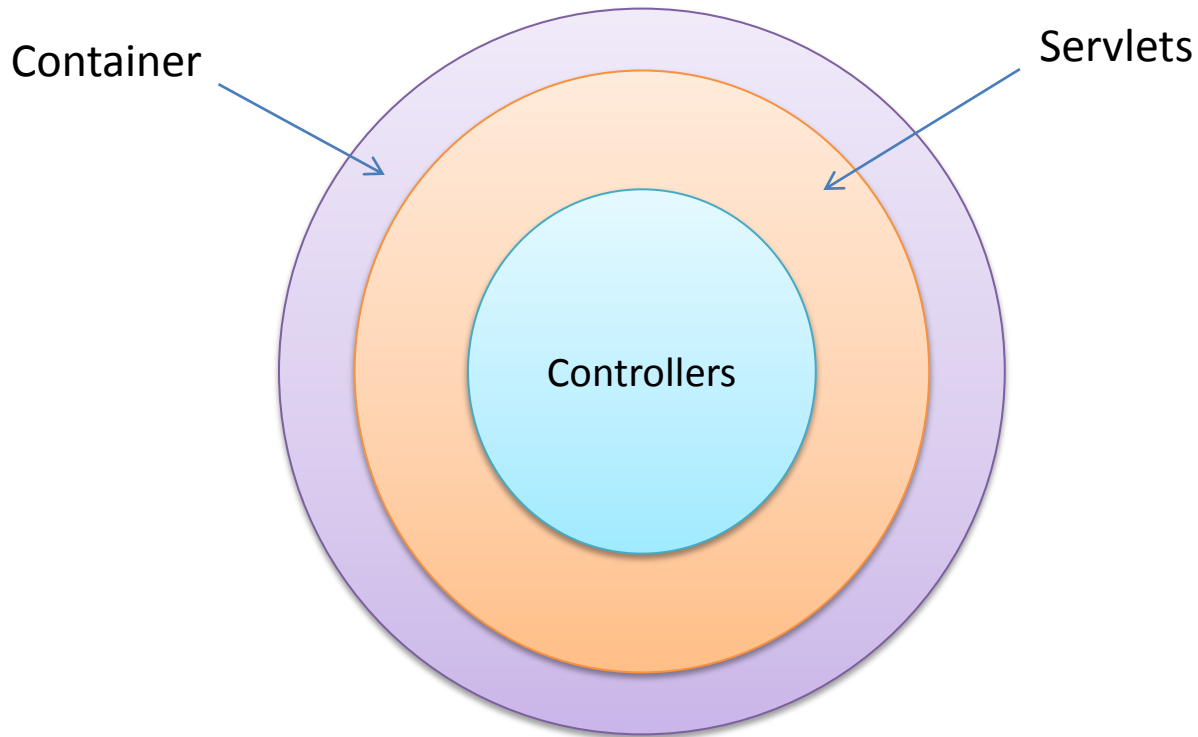- How to separate from business logic?

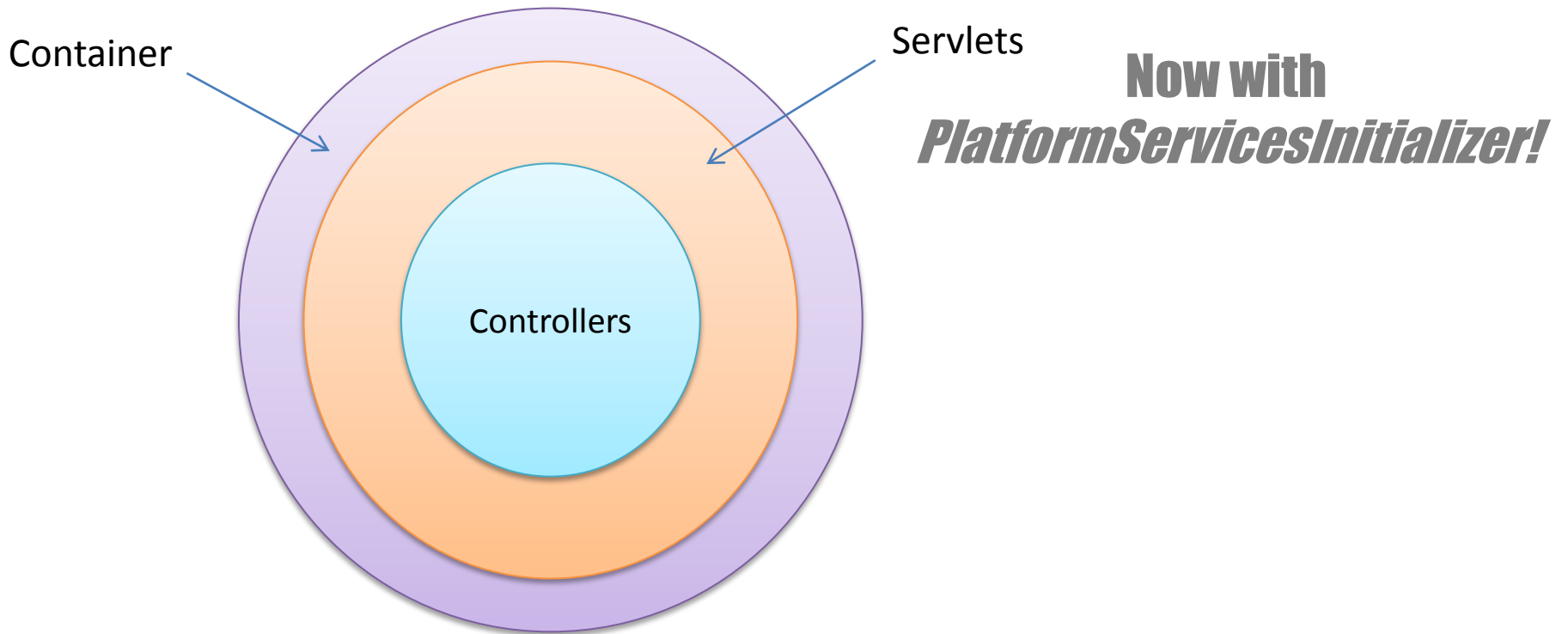**jclouds**

Making TweetStore Portable

- Different app services available
- How to separate from business logic?
- DI layer as boundary
  - "native" for some PaaSes
- Supporting Guice & Spring

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Making TweetStore Portable

Container

Servlets

Controllers

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Making TweetStore Portable

Container

Servlets

Controllers

Now with
PlatformServicesInitializer!

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Making TweetStore Portable

1. Listener retrieves information from platform and instantiates *PlatformServices*

2. "Application" DI layer uses *PlatformServices* as a factory

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Making TweetStore Portable

1. Listener retrieves information from platform and instantiates *PlatformServices*

2. "Application" DI layer uses *PlatformServices* as a factory

- Essentially "platform" DI layer

- Keeps platform knowledge isolated

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Making TweetStore Portable

- Essentially "platform" DI layer
- Keeps platform knowledge isolated
- TODO: Create service abstraction?
- TODO: Spring namespace?
- TODO: Guice module?

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Integration Testing

- One option: different app instance in the PaaS
- Cost? Access? Debugging?
- Would like to test offline
- Would like to test from build
- Would like to test from IDE

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Integration Testing

- Use provided "local" emulators/servers
- Create your own emulator
- Use local test image

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- Test support varies widely

- Arquillian PaaS containers would be nice!

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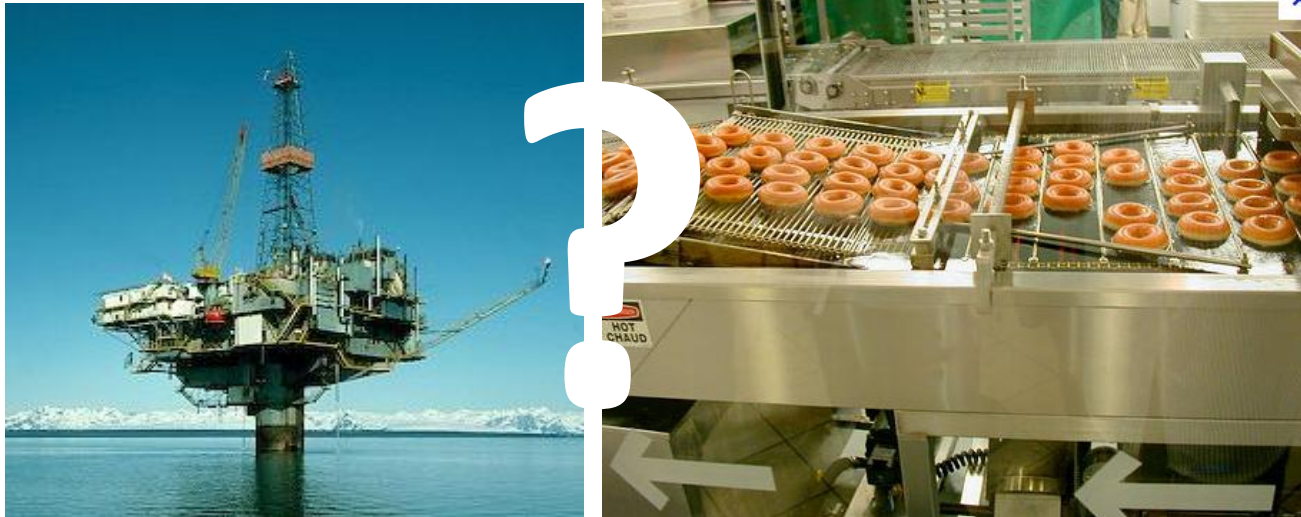
  hint hint ;-)

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Continuous Integration & Deployment

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Continuous Integration & Deployment

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Continuous Integration & Deployment

- Relatively easy with deployment-via-SDK

- Maven plugins make it even nicer

- Trickier with the "git push" model if you want your source elsewhere

- Can handle with build-store-checkout-commit

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Continuous Integration & Deployment

- Release management/change control still open questions

- Use deploy and post-deploy hooks?

- Pluggable PaaS service?

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Portable PaaS: make sense (yet)?

- For PaaS apps generally
  - You'll probably write it differently when writing for PaaS
  - Good for greenfield
  - For existing apps, see if you can just run

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Portable PaaS: make sense (yet)?

- For PaaS apps generally

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- "Porting to PaaS"? Hm.

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Portable PaaS: make sense (yet)?

- *Portable* PaaS apps?

  - Want to avoid lock-in

  - Need multiple *instances*, not necessarily multiple platforms

  - PaaS services will standardize over time

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Portable PaaS: make sense (yet)?

- *Portable* PaaS apps?
  - Want to avoid lock-in
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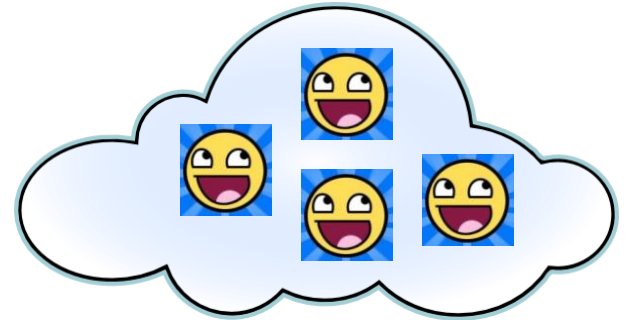 - PaaS services will standardize over time
- **Probably not yet.**

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More Info

- http://www.jclouds.org

- http://github.com/jclouds/jclouds

- https://github.com/jclouds/jclouds/tree/master/demos/tweetstore

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Come Hang Out!

- MEETUP TONIGHT!! http://bit.ly/wpfoeS
  Citerus AB, Barnhusgatan 16, 111 23, 17:30
- jclouds@googlegroups.com
- @jclouds
- IRC #jclouds on freenode

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