How to Contribute to Apache Usergrid

Dave Johnson
Contributor

Who Cares?

- Who cares how to contribute to Usergrid?
- At least three possibilities:
  - Those who run Usergrid in production
  - Those who want to get involved in open source
  - ASF officers and directors

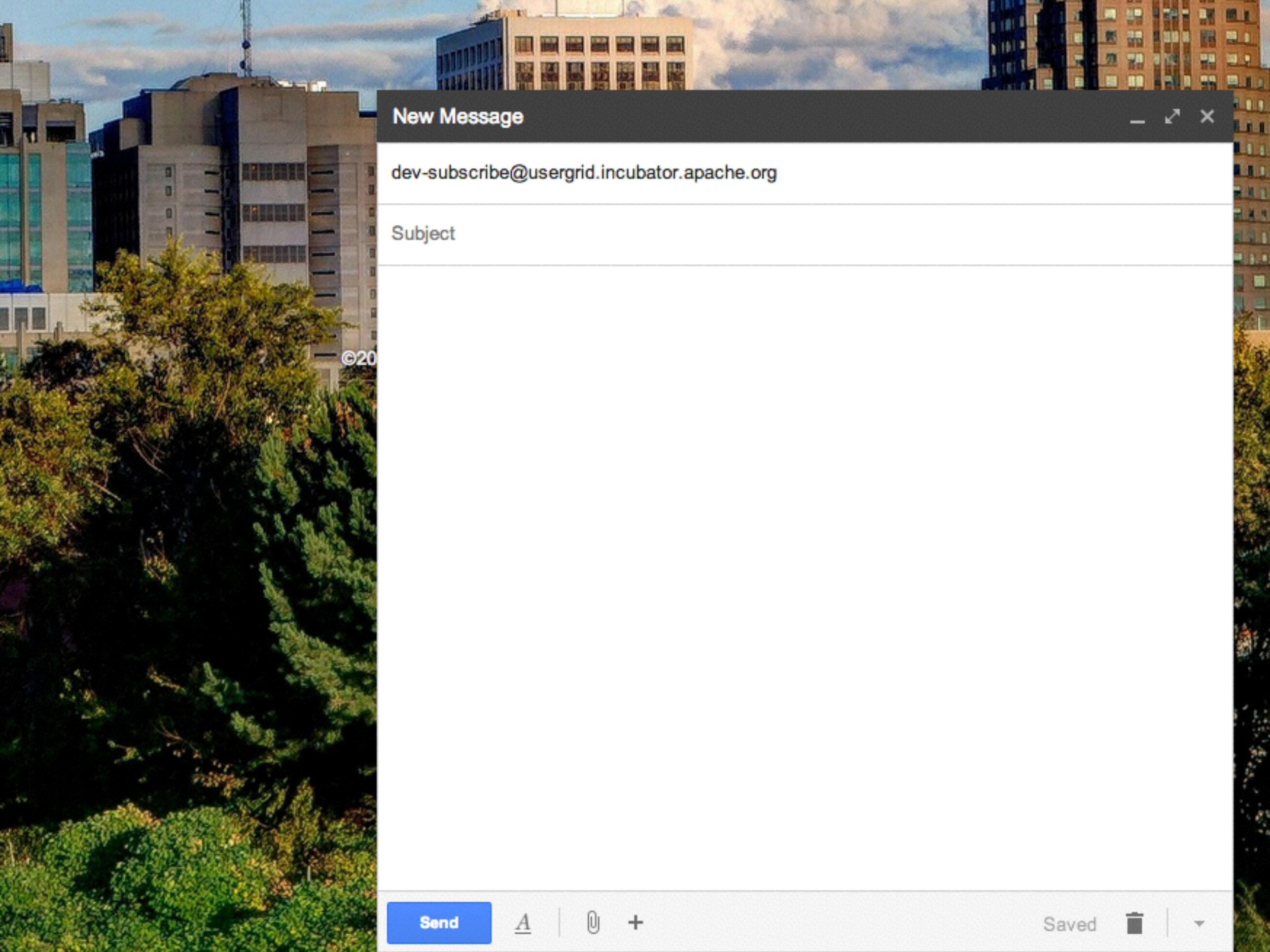
Topics

- Getting, building and running the Usergrid code
- Usergrid Internals
- Usergrid Contributor workflow
- Usergrid Roadmap

- Database and more, wrapped by a REST API
- Store and query JSON Entities & Files
- Authentication: Users, Roles & Permissions
- Comprehensive Admin Portal
- SDKs for JavaScript, iOS, Android, Java, Ruby…

First step

Get signed up…



New Message

dev-subscribe@usergrid.incubator.apache.org

Subject

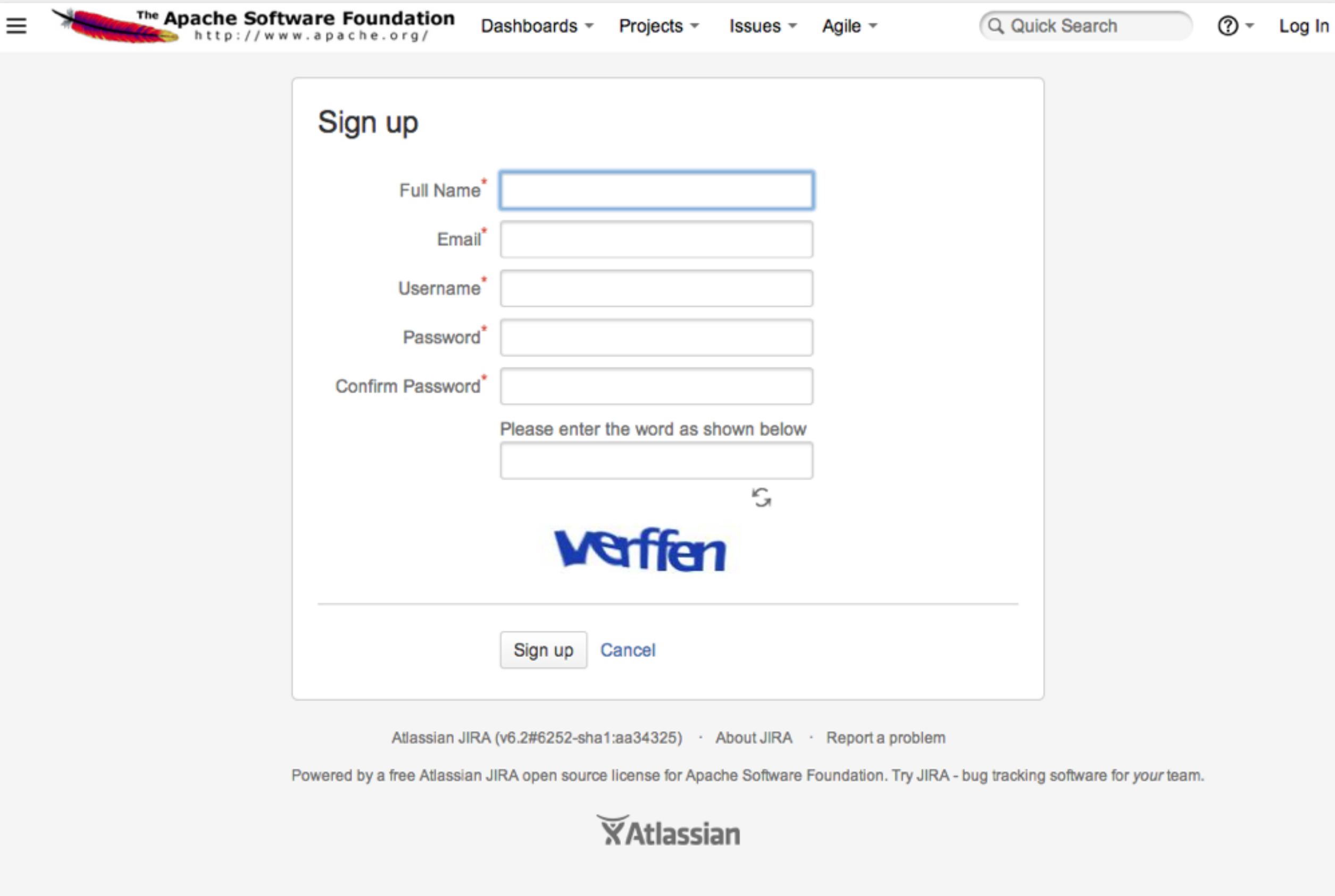
Send

Saved

Emailocracy

- Seems old-fashioned but…
- *Everything* happens on the mailing lists
  - dev@usergrid.incubator.org
  - user@usergrid.incubator.org
  - commits@usergrid.incubator.org
- If it did not happen on a list, then it did not happen

https://issues.apache.org/jira/browse/USERGRID/



https://github.com/

GitHub Search or type a command Explore Features Enterprise Blog Sign in

Build software better, together.

Powerful collaboration, code review, and code management for open source and private projects. Need private repositories? Upgraded plans start at $7/mo.

Pick a username

Your email

Create a password

Use at least one lowercase letter, one numeral, and seven characters.

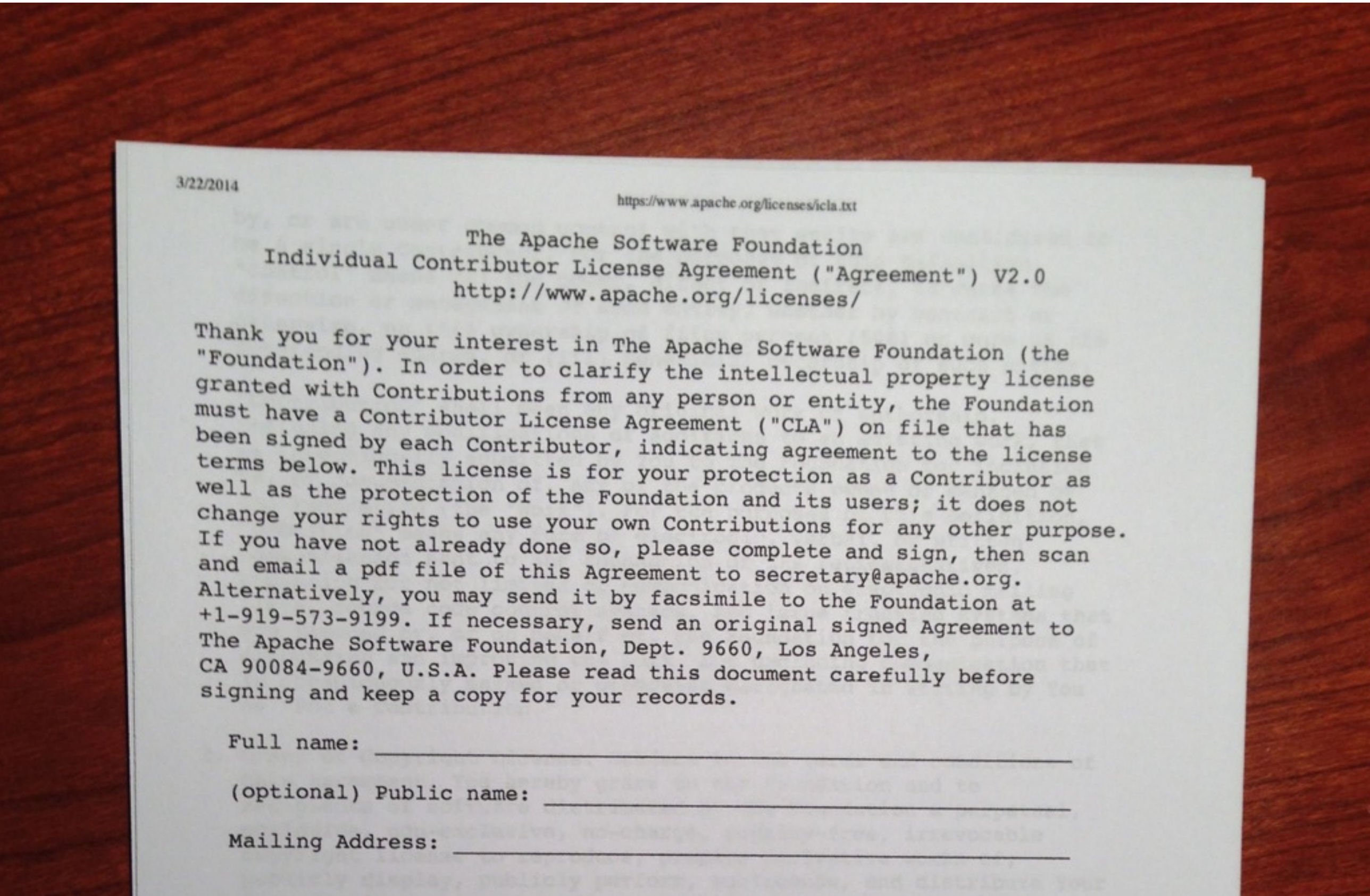
Sign up for GitHub

By clicking "Sign up for GitHub", you agree to our terms of service and privacy policy.

Why you'll love GitHub.

Powerful features to make software development more collaborative.

https://www.apache.org/licenses/icla.txt



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Full name: _____

(optional) Public name: _____

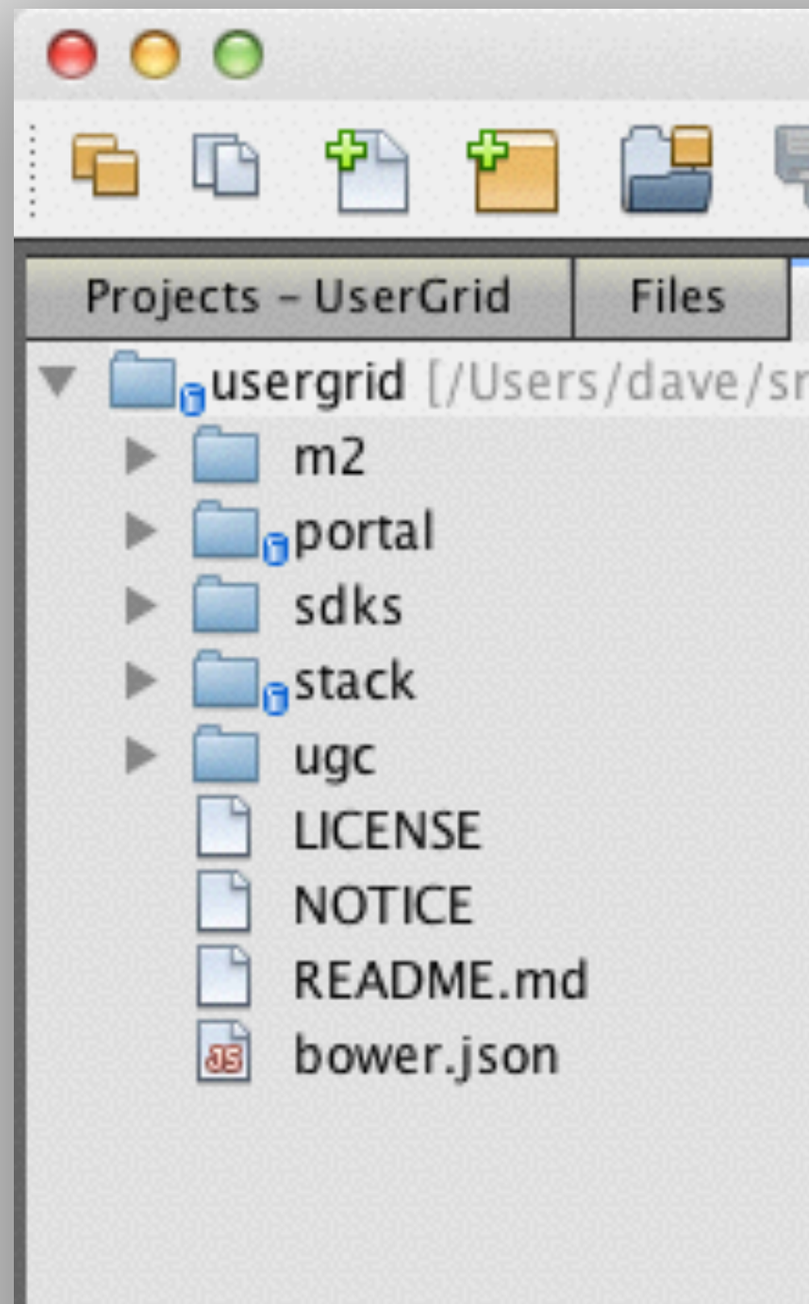
Mailing Address: _____

Get the code!

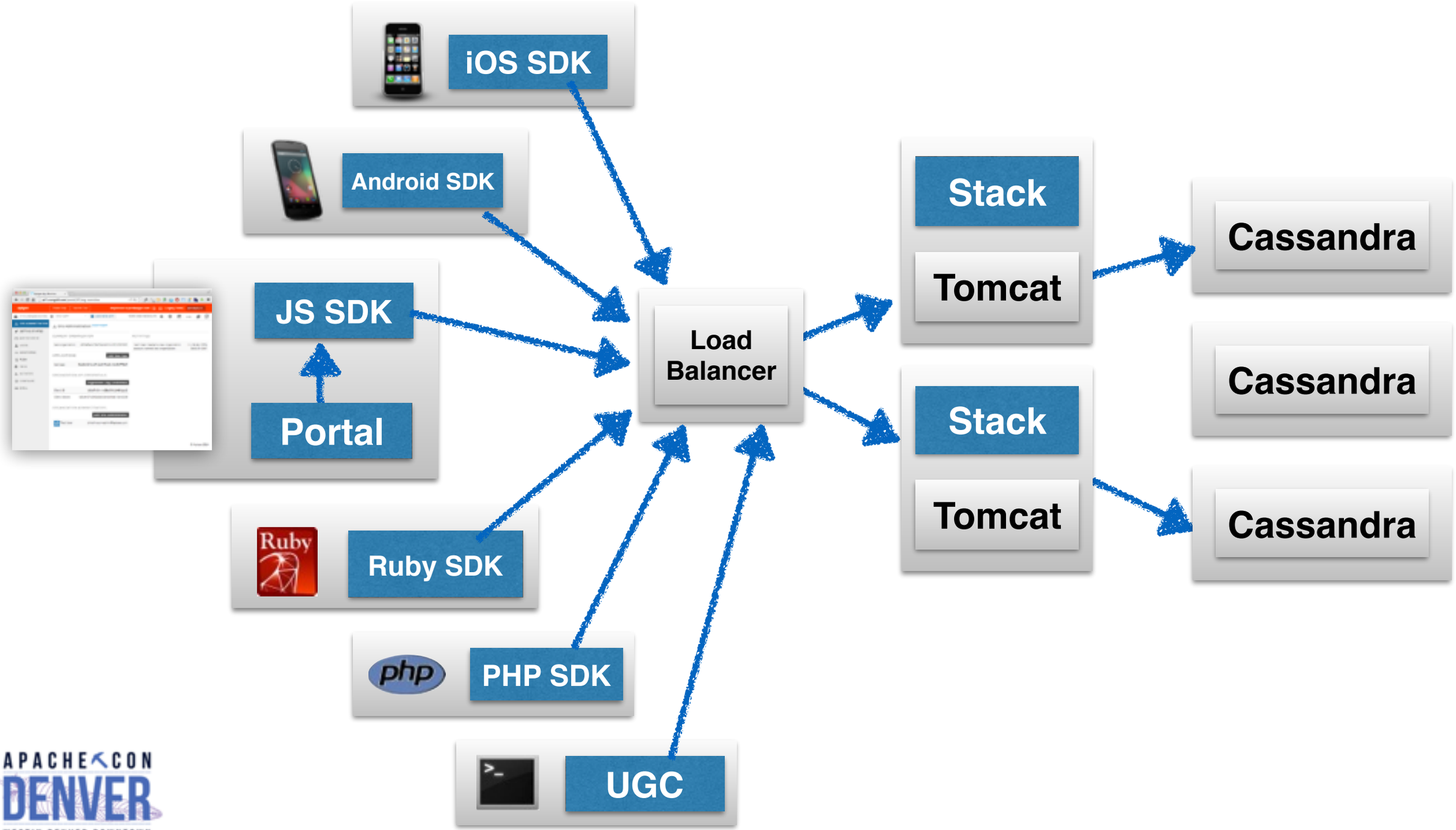
```
$ git clone https://github.com/usergrid/usergrid.git
Cloning into 'usergrid'...
remote: Reusing existing pack: 77027, done.
remote: Counting objects: 43, done.
remote: Compressing objects: 100% (42/42), done.
remote: Total 77070 (delta 20), reused 0 (delta 0)
Receiving objects: 100% (77070/77070), 215.67 MiB |
259.00 KiB/s, done.
Resolving deltas: 100% (31782/31782), done.
Checking connectivity... done
$ ls usergrid
LICENSE   NOTICE    README.md   portal/   sdks/
stack/    ugc/
```

The lay of the land

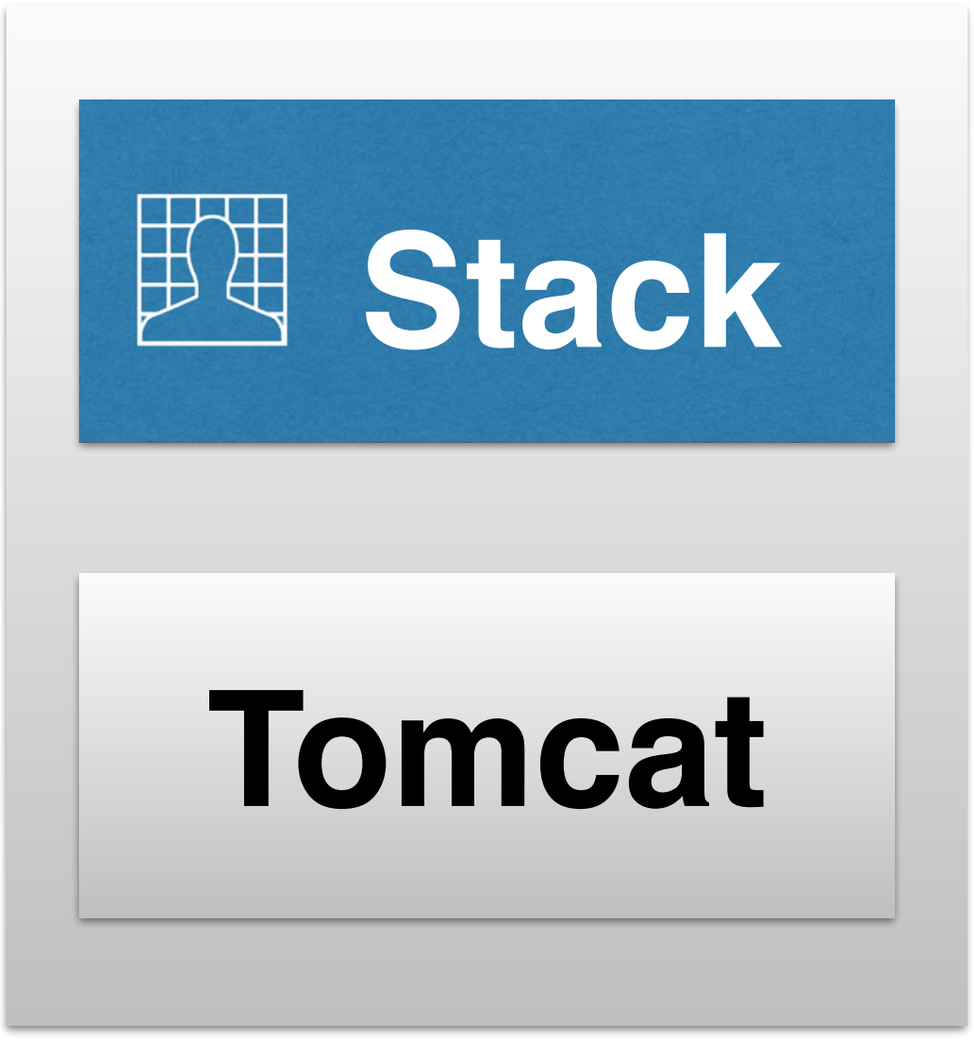
- The Stack
- The Portal
- The SDKs
- Documentation & Web site



Deployment Architecture



The Usergrid Stack



Stack Overview

- Java web application
- Jersey (JAX-RS) for REST, Jackson for JSON
- Spring for Dependency Injection
- Hector for Cassandra client access
- Composed of Maven modules

Building the Stack

- Install Java 7 and Maven 3.0.5
- `cd stack`
- `mvn clean install`
- Or for a quicker build:
  - `mvn -DskipTests=true clean install`
- Results are in:
  - `rest/target/ROOT.war`
  - `launcher/target/usergrid-launcher-0.0.29-SNAPSHOT.jar`

Running the Stack

- `cd stack/launcher`
- `java -jar target/usergrid-launcher-0.0.29-SNAPSHOT.jar`

Usergrid Launcher

☑ **Start Database With Server***

☐ **Initialize Database on Start***

Console URL: http://apigee.github.io/usergrid-portal

☑ **Auto-login as:** test@usergrid.com

* Database can only be started or initialized once per app launch

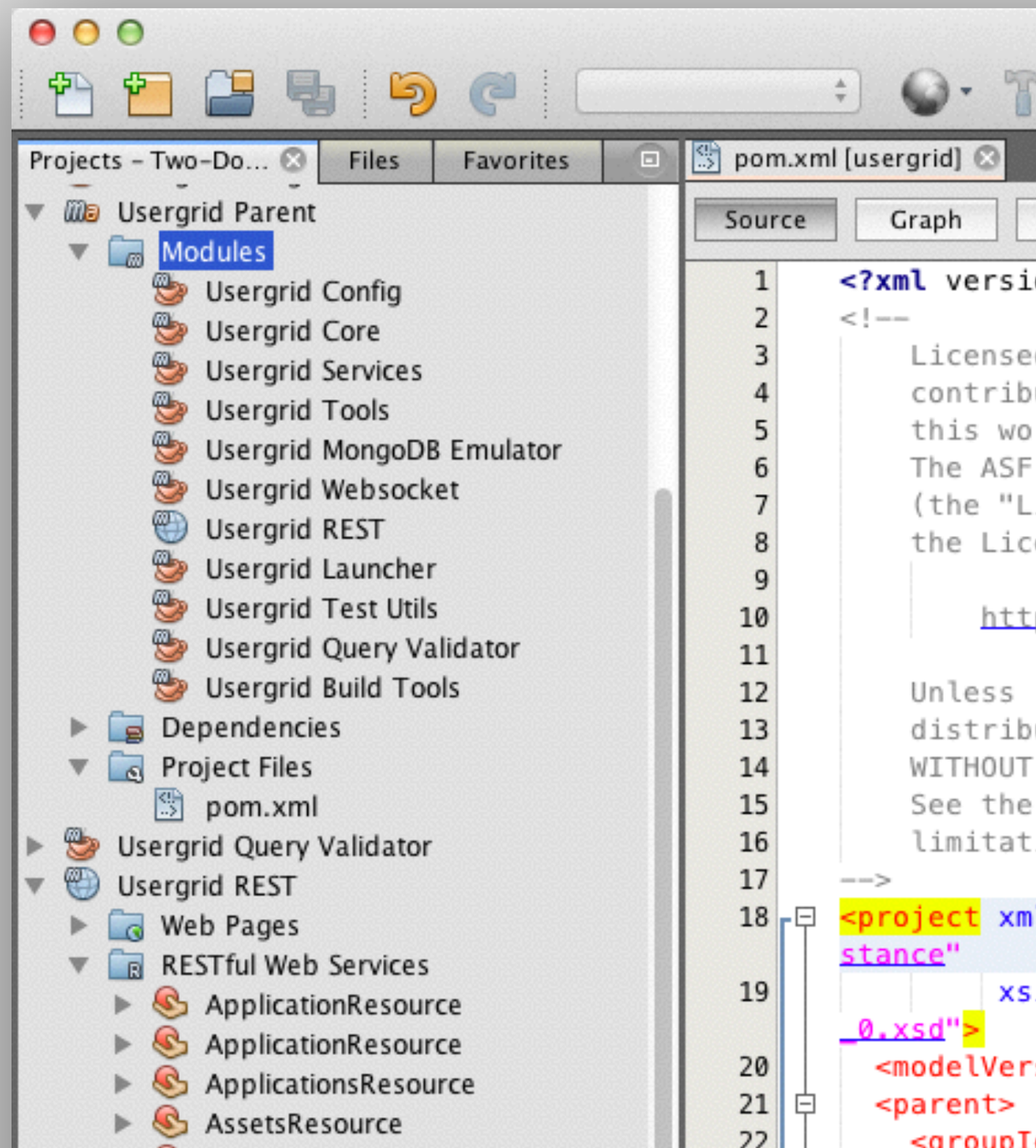
1. java

java

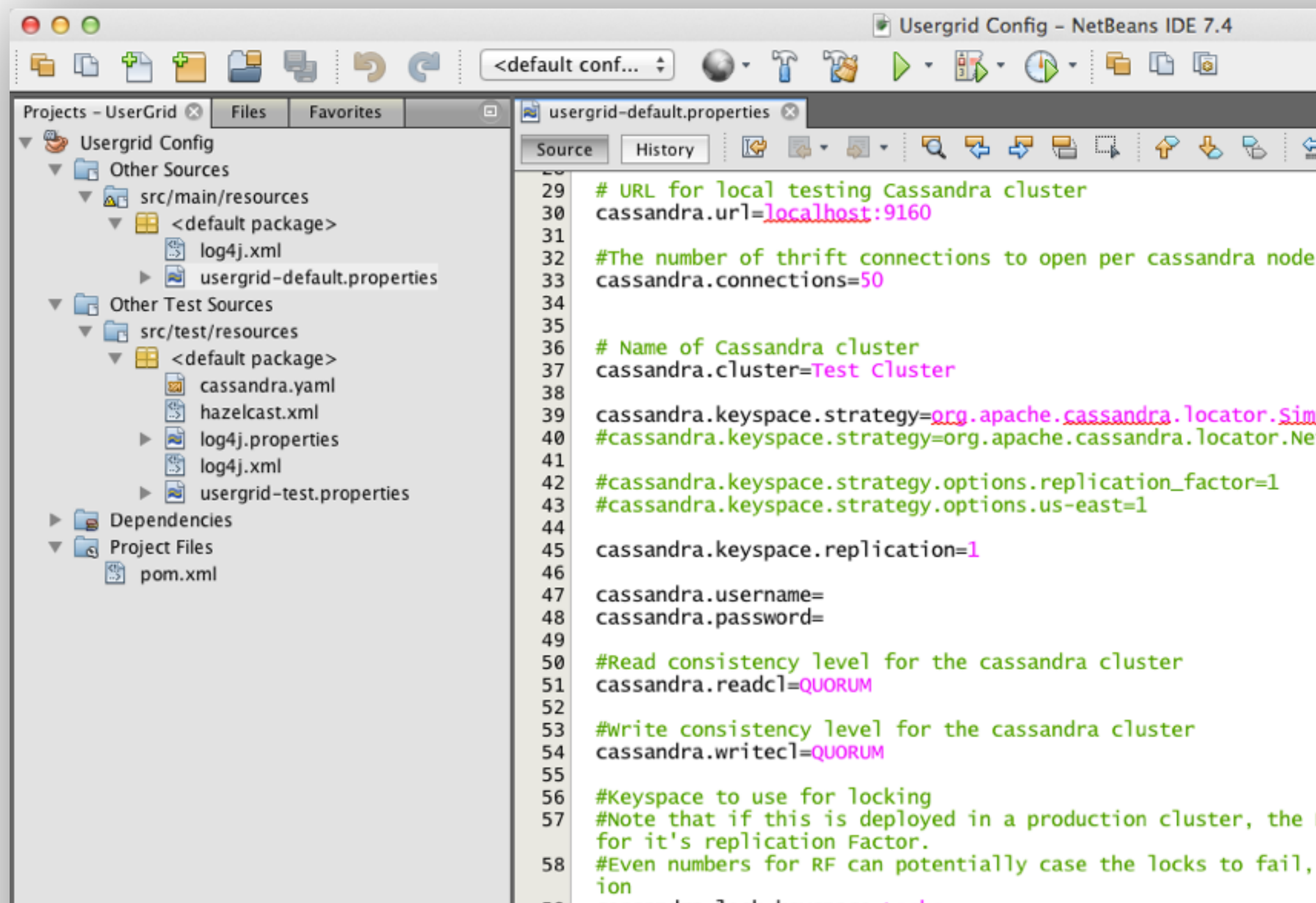
```
.rest.exceptions.RequiredPropertyNotFoundExceptionMapper
.rest.exceptions.RecentlyUsedPasswordExceptionMapper
.rest.exceptions.NoOpExceptionMapper
.rest.security.shiro.ShiroAuthenticationExceptionMapper
```

Stack Internals

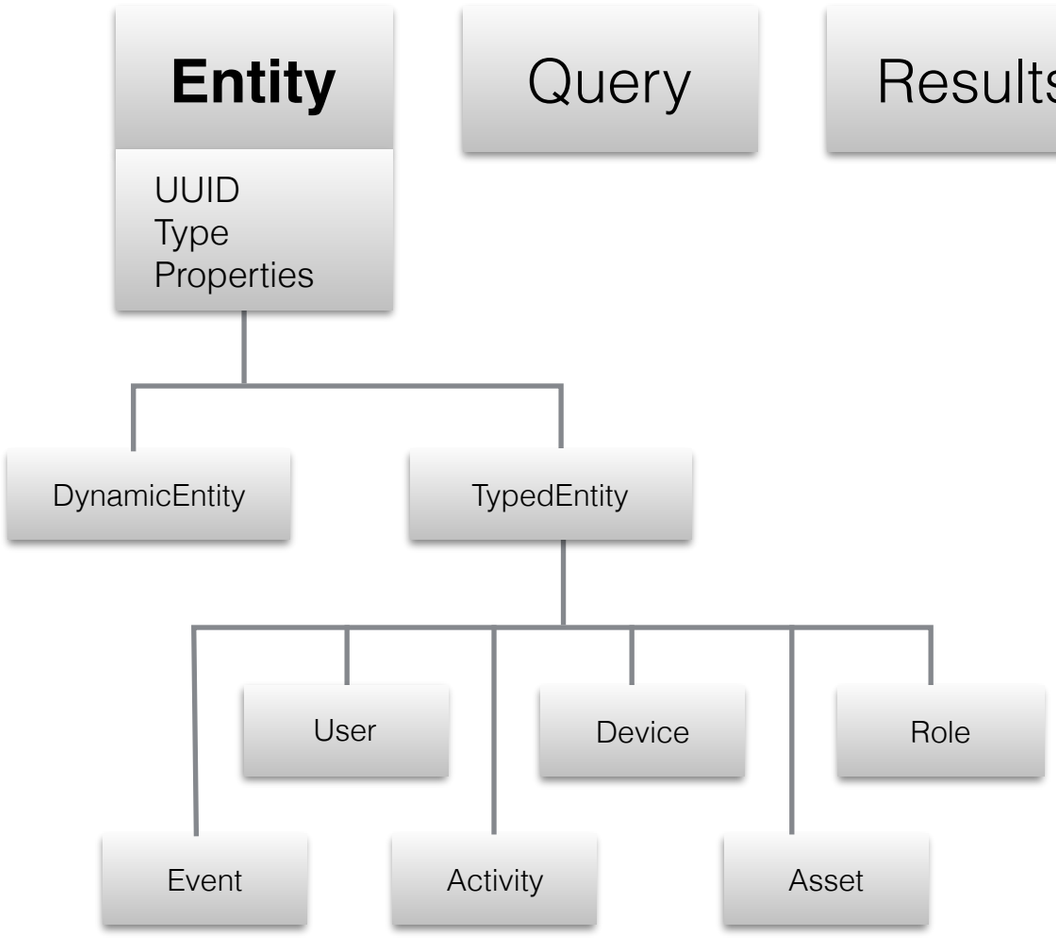
- Key Maven modules:
  - Config
  - Core
  - Services
  - REST



Stack Config Module



Stack Core Module



Query

Results

EntityManager

RelationManager

CounterStore

SchedulerService

QueueManager

LockManager

Config **Commons** **Cassandra** **Hector** **Jackson** **Spring** **ANTLR**

Stack Services Module

ServiceManager

ServiceRequest

ServiceResult

ServiceContext

ServiceAction (POST, GET, PUT, DELETE, HEAD, OPTIONS)

Service

getServiceType()
getEntityType()
isRootService()
invoke(action, request, results, payload)
getEntity(request, UUID uuid)
getEntity(request, String name)
importEntity(request, entity)
writeEntity(request, entity)
updateEntity(request, ref, payload)

- AbstractService
  - AbstractCollectionService
    - AbstractPathBasedCollectionService
      - AssetsService
      - GroupsService
    - ActivitiesService
    - DevicesService
    - RolesService
    - RootCollectionService
    - Service
    - UsersService
  - AbstractConnectionService
    - FollowingService
    - GenericConnectionService

ManagementService

EncryptionService

SignInAsProvider

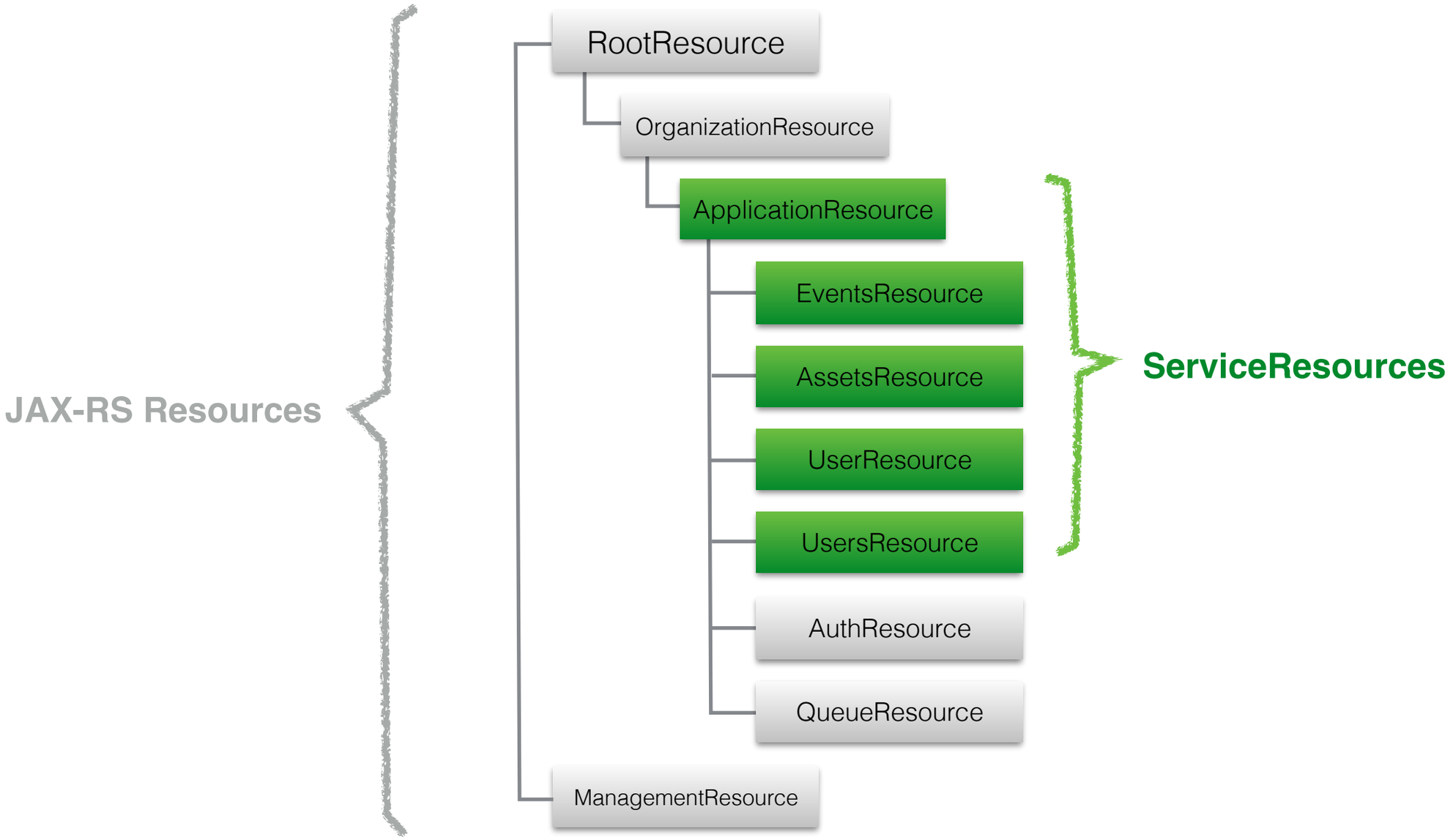
TokenService

ExportService

Realm

Config **Core** **Spring** **Shiro** **JClouds** **Amber**

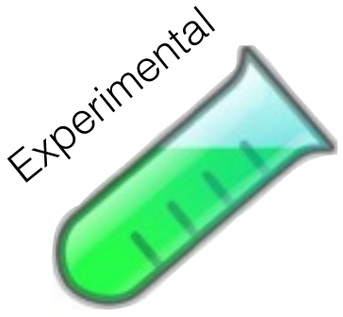
Stack REST Module



Config | Core | Services | Jersey | Jackson | Spring | Shiro

Testing the stack

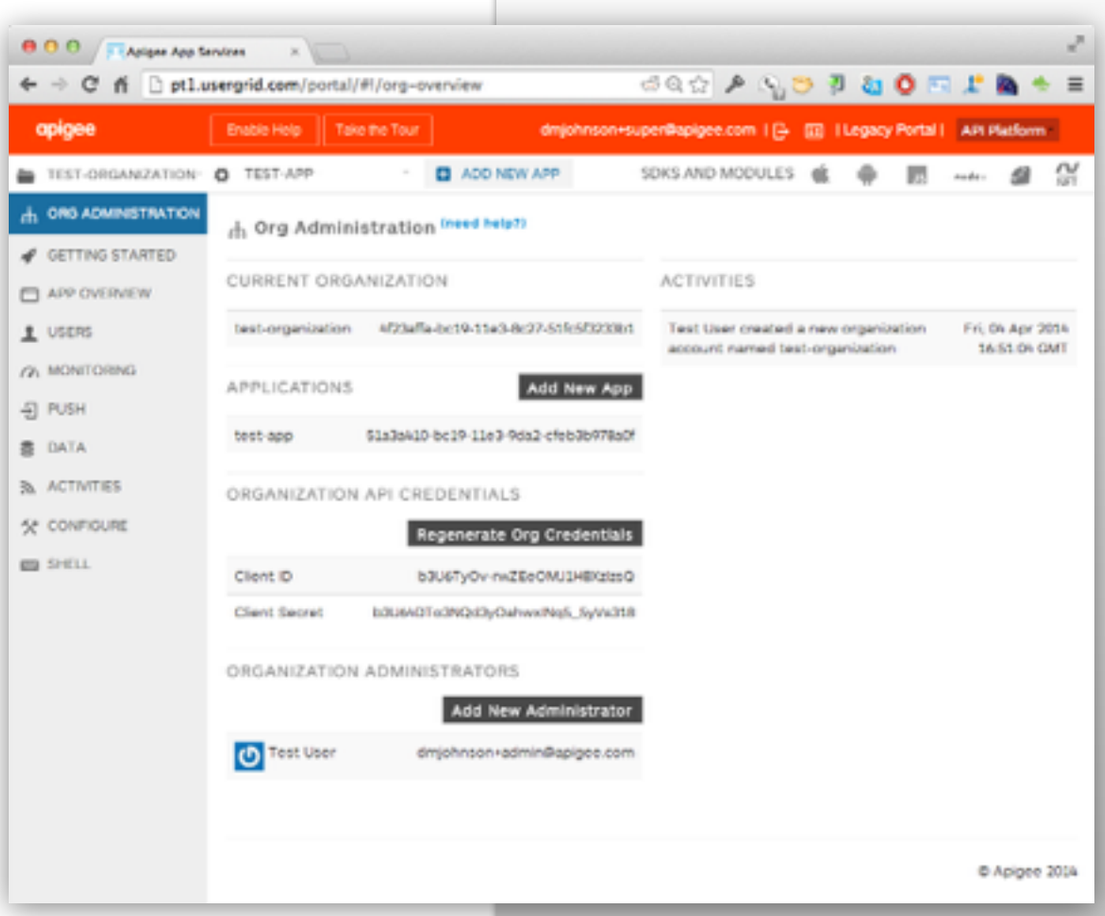
- `cd stack; mvn test`
- Each module has tests, implemented via JUnit
  - Unit tests *Test and Integration tests are *IT
  - Core and Services tests start and stop Cassandra.
    - See also: CassandraResource.java
  - REST tests start Cassandra and Jetty (via Maven-Jetty plugin)

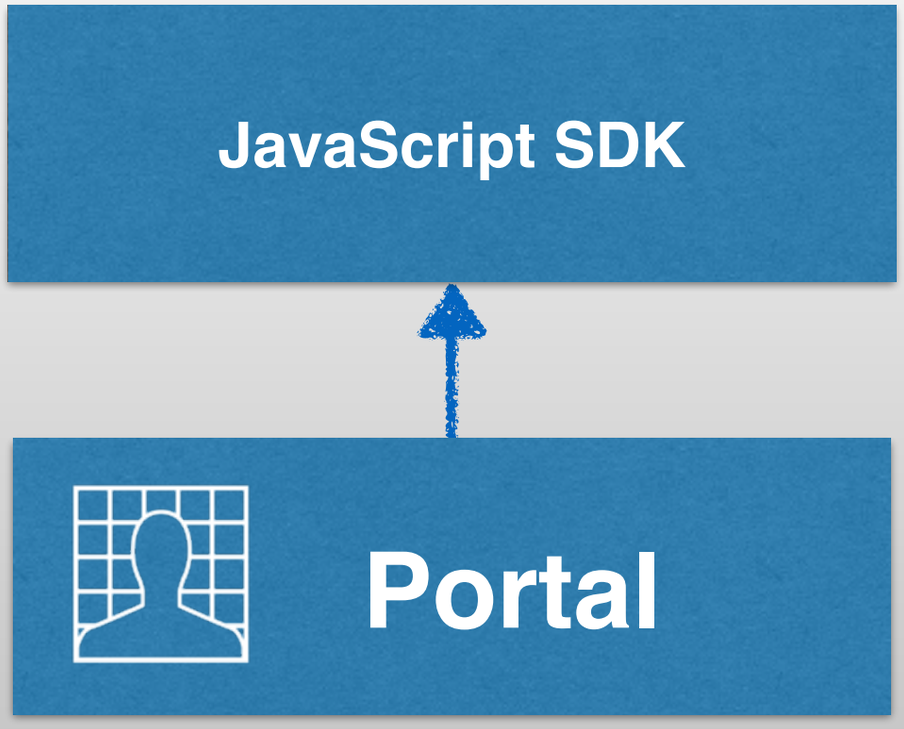


Other starting points

- Install on Tomcat and Cassandra locally
  - **https://usergrid.incubator.apache.org/docs/deploy-local/**
- Launch N-node cluster via AWS Cloud Formation
  - **https://github.com/usergrid/usergrid/tree/two-dot-o/stack/awscluster**
- 1-node cluster via Vagrant and Chef
  - **https://github.com/r3b/usergrid-vagrant**
- 3-node cluster via Vagrant, bash and Groovy
  - **https://github.com/usergrid/usergrid/tree/vagrant-launcher/stack/launcher-vagrant**

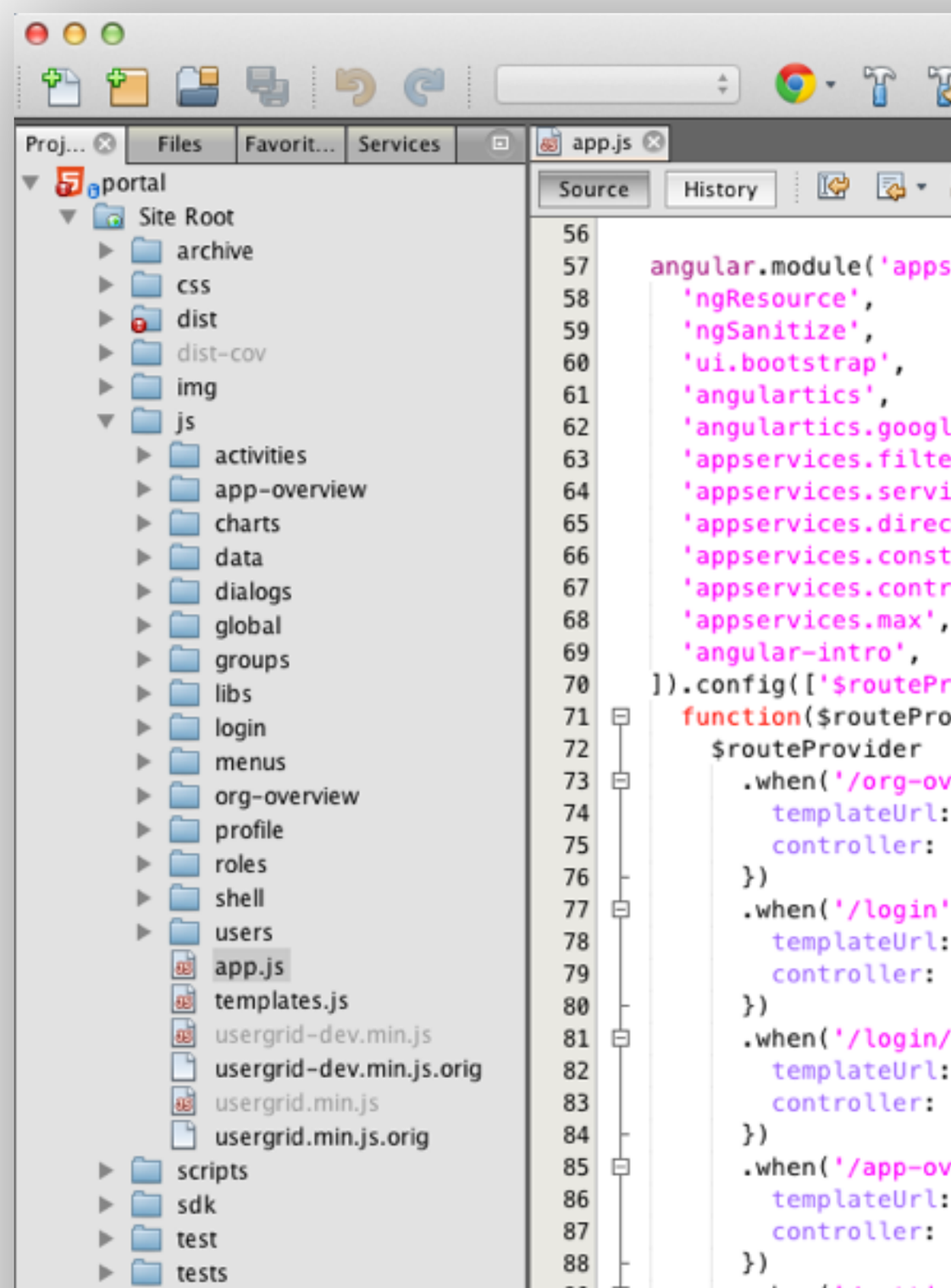
The Usergrid Portal





Portal Architecture

- Portal is an Angular.js application
- Access to Usergrid via Usergrid JavaScript SDK
- Grunt used as build system
- Can be deployed to any web server (e.g. Apache HTTPD)
- Can be run locally Grunt and Node.js



Building the Portal

- Install node.js from **http://nodejs.org/download**
- `sudo npm install grunt-cli -g`
- `cd portal; ./build.sh`
- Build is in `dist/appsvc-ui.2.0.0.zip`
- Ready for deployment to HTTPD, Tomcat, etc.

https://github.com/usergrid/usergrid/blob/master/portal/README.md

Running the Portal

- Sign up for an Apigee App Services account:
  - **https://accounts.apigee.com/accounts/sign_in**
- Run the Portal via grunt and node.js:
  - `cd portal; grunt dev`
- Navigate to **http://localhost:3000**
- Login with Apigee App Services credentials

ORG ADMINISTRATION
GETTING STARTED
APP OVERVIEW
USERS
DATA
ACTIVITIES
SHELL

Org Administration (need help?)

CURRENT ORGANIZATION

snoopdave	e866669a-0750-11e3-a2d2-19b94d99d241

APPLICATIONS

Add New App

pushtest	f43084d0-5636-11e3-acf7-f38d60cf414c
pushtest1	32267ac0-667b-11e3-bbb1-dde56f2c7992
pushtest2	a3a0daa0-671c-11e3-b057-0d6a67590bb7
pushtest3	646d0c70-68be-11e3-8140-436ccc1b9c02
pushtest4	2bc45bb0-68f2-11e3-890c-6b6e7c2df465
restaurants	fbc3ca00-2b74-11e3-beab-cfda92cc5c2c
sandbox	e8ccf090-0750-11e3-b66e-9b4fe632b12d
volda	0d76c600-0751-11e3-998e-850d24bda170

ORGANIZATION API CREDENTIALS

Regenerate Org Credentials

Client ID	b3U66GZmmgdQEeOi0hm5TZnSQQ
Client Secret	b3U6MW-cljxXFuJa2DkQo2ZhLNnz-uw

ORGANIZATION ADMINISTRATORS

Add New Administrator

 snoopdave	snoopdave@gmail.com
dmjohnson@apigee.com	dmjohnson@apigee.com

ACTIVITIES

dmjohnson@apigee.com created a new application named pushtest4

dmjohnson@apigee.com created a new application named pushtest3

dmjohnson@apigee.com created a new application named pushtest2

dmjohnson@apigee.com created a new application named pushtest1

dmjohnson@apigee.com created a new application named pushtest

snoopdave created a new application named restaurants

snoopdave created a new application named Volda

snoopdave created a new organization account named snoopdave

Running against your own stack

- Build and deploy stack (via Launcher or local Tomcat and Cassandra)
- Run the Portal via grunt and node.js:
  - `cd portal; grunt dev`
- Navigate to the Portal, login as superuser/superuser
  - **http://localhost:3000?api_url=http://localhost:8080**

ORG ADMINISTRATION
GETTING STARTED
APP OVERVIEW
USERS
DATA
ACTIVITIES
SHELL

Org Administration (need help?)

CURRENT ORGANIZATION

test-organization	db79be5a-b8e4-11e3-96b3-1b64dbefb214

ACTIVITIES

Test User created a new organization account named test-organization	Mon, 31 Mar 2014 14:58:02 GMT

APPLICATIONS

Add New App

test-app	dbbabef0-b8e4-11e3-9de2-0f8d088a2840

ORGANIZATION API CREDENTIALS

Regenerate Org Credentials

Client ID	b3U623m-WrjkEeOWsxtk2--yFA
Client Secret	b3U6EOjJvrMG0-AWyvBrN4ZPME2RLHw

ORGANIZATION ADMINISTRATORS

Add New Administrator

Test User	test@usergrid.com

The SDKs

- JavaScript / HTML5
- iOS
- Android
- Java
- Ruby
- Ruby On Rails
- PHP

Contributor Workflow

- **Discuss**
  - Discuss your changes on the dev mailing list
  - Create a JIRA issue for your changes
- **Do the work**
  - Fork the Github **usergrid/usergrid** repo
  - Make your changes and add tests
- **Push your changes**
  - Submit a *clean* PR against **the appropriate branch of usergrid/usergrid**
  - Update JIRA issue, announce PR on dev mailing list

https://github.com/usergrid/usergrid

This repository | Search or type a command | Explore | Gist | Blog | Help | snoopdave

usergrid / usergrid
forked from apache/incubator-usergrid

Unwatch 23 | Unstar 65 | Fork 44

Fork us!

This is where the Apache Usergrid team works. See also: http://usergrid.incubator.apache.org/ — Edit

4,450 commits | 26 branches | 29 releases | 46 contributors

branch: master | usergrid /

This branch is 0 commits ahead and 0 commits behind master | Pull Request | Compare

Ignore Netbeans project files.

snoopdave authored a day ago | latest commit 778511b710

portal	Merge pull request #97 from shawnfeldman/master	3 days ago
sdks	Merge pull request #80 from usergrid/node-sdk-enhancements	9 days ago
stack	Added in null check instead of empty string check.	9 days ago
ugc	fix setting profile & target configurations	6 months ago
.gitignore	Ignore Netbeans project files.	a day ago
LICENSE	For USERGRID-100, add a NOTICE file and update LICENSE for the SBJso…	21 days ago
NOTICE	For USERGRID-100, add a NOTICE file and update LICENSE for the SBJso…	21 days ago
README.md	Update README.md	13 days ago
bower.json	adding bower	5 days ago

Code
Pull Requests 7
Pulse
Graphs
Network
Settings

HTTPS clone URL
https://github.com/u

You can clone with HTTPS, SSH, or Subversion.

Clone in Desktop
Download ZIP

snoopdave / usergrid

forked from usergrid/usergrid

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4,450 commits **26** branches **29** releases **46** contributors

branch: **master** **usergrid** /

This branch is 0 commits ahead and 0 commits behind master — Pull Request Compare

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.gitignore	Ignore Netbeans project files.	a day ago
LICENSE	For USERGRID-100, add a NOTICE file and update LICENSE for the SBJso…	21 days ago
NOTICE	For USERGRID-100, add a NOTICE file and update LICENSE for the SBJso…	21 days ago
README.md	Update README.md	13 days ago
bower.json	adding bower	5 days ago

README.md

HTTPS clone URL

https://github.

You can clone with H
or Subversion.

Clone in D

Downloa

snoopdave / usergrid

forked from usergrid/usergrid

This is where the Apache Usergrid team works. See also: http://usergrid.incubator.apache.org/ — Edit

4,451 commits | Compose Pull Request | 29 releases | 46 contributors

branch: master ▾ usergrid / +

This branch is 0 commits ahead and 0 commits behind master | Pull Request | Compare

Adding reference to command-line.

snoopdave authored just now | latest commit fe71caad66

portal	Merge pull request #97 from shawnfeldman/master	3 days ago
sdks	Merge pull request #80 from usergrid/node-sdk-enhancements	9 days ago
stack	Added in null check instead of empty string check.	9 days ago
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LICENSE	For USERGRID-100, add a NOTICE file and update LICENSE for the SBJso…	21 days ago
NOTICE	For USERGRID-100, add a NOTICE file and update LICENSE for the SBJso…	21 days ago
README.md	Adding reference to command-line.	just now
bower.json	adding bower	5 days ago

README.md

HTTPS clone URL

https://github.

You can clone with H
or Subversion.

Clone in

Downlo

snoopdave / usergrid

forked from usergrid/usergrid

Unwatch 1 | Star 0 | Fork

usergrid:master ... snoopdave:master

Edit

Create Pull Request

Open a Pull Request for this comparison to discuss and review your changes with others.

1 commit | 1 file changed | 0 comments | 1 contributor

Apr 05, 2014

snoopdave Adding reference to command-line. fe71caa

Showing 1 changed file with 1 addition and 1 deletion.

Show diff stats

2 README.md

Source | Rendered | Open | View

```
@@ -3,7 +3,7 @@ Apache Usergrid
 3  3
 4  4   **Apache Usergrid is a multi-tenant Backend-as-a-Service stack for web & mobile applications, based on RESTful APIs. It is
        [currently incubating at the Apache Software Foundation](http://usergrid.incubator.apache.org/).**
 5  5
 6     -This repository contains all the code for Apache Usergrid, including the server stack, portal, client and SDKs. Each of them
        have their own, much more detailed README in the corresponding subdirectories.
    6  +This repository contains all the code for Apache Usergrid, including the server stack, portal, client, command-line and SDKs.
        Each of them have their own, much more detailed README in the corresponding subdirectories.
 7  7
 8  8   * The server-side stack, a Java 7 + Cassandra codebase that powers all of the features, is located under [`/stack`](stack). You
        can install dependencies and compile it with maven. See [stack/README.md](stack#requirements) for instructions.
 9  9   * a command-line client "ugc" allowing you to complete most maintenance tasks, as well as queries in a manner similar to the
        mysql or the mongo shell, located under [`/ugc`](ugc). You can install it on your machine with a simple `sudo gem install ugc`
```

Create Pull Request

snoopdave / usergrid

forked from usergrid/usergrid

Unwatch 1 | Star 0 | Fork 44

usergrid:master ... snoopdave:master

Edit

Explain change, reference JIRA issue and mention ICLA

Adding reference to command-line.

Write | Preview

Comments are parsed with GitHub Flavored Markdown

```
Just a test...

See also JIRA issue USERGRID-1337
https://issues.apache.org/jira/browse/USERGRID-1337

My ICLA is listed under "Dave Johnson"
```

Attach images by dragging & dropping, selecting them, or pasting from the clipboard.

✓ Able to merge

These branches can be automatically merged

Send pull request

1 commit | 1 file changed | 0 comments | 1 contributor

Apr 05, 2014

snoopdave Adding reference to command-line. fe71caa

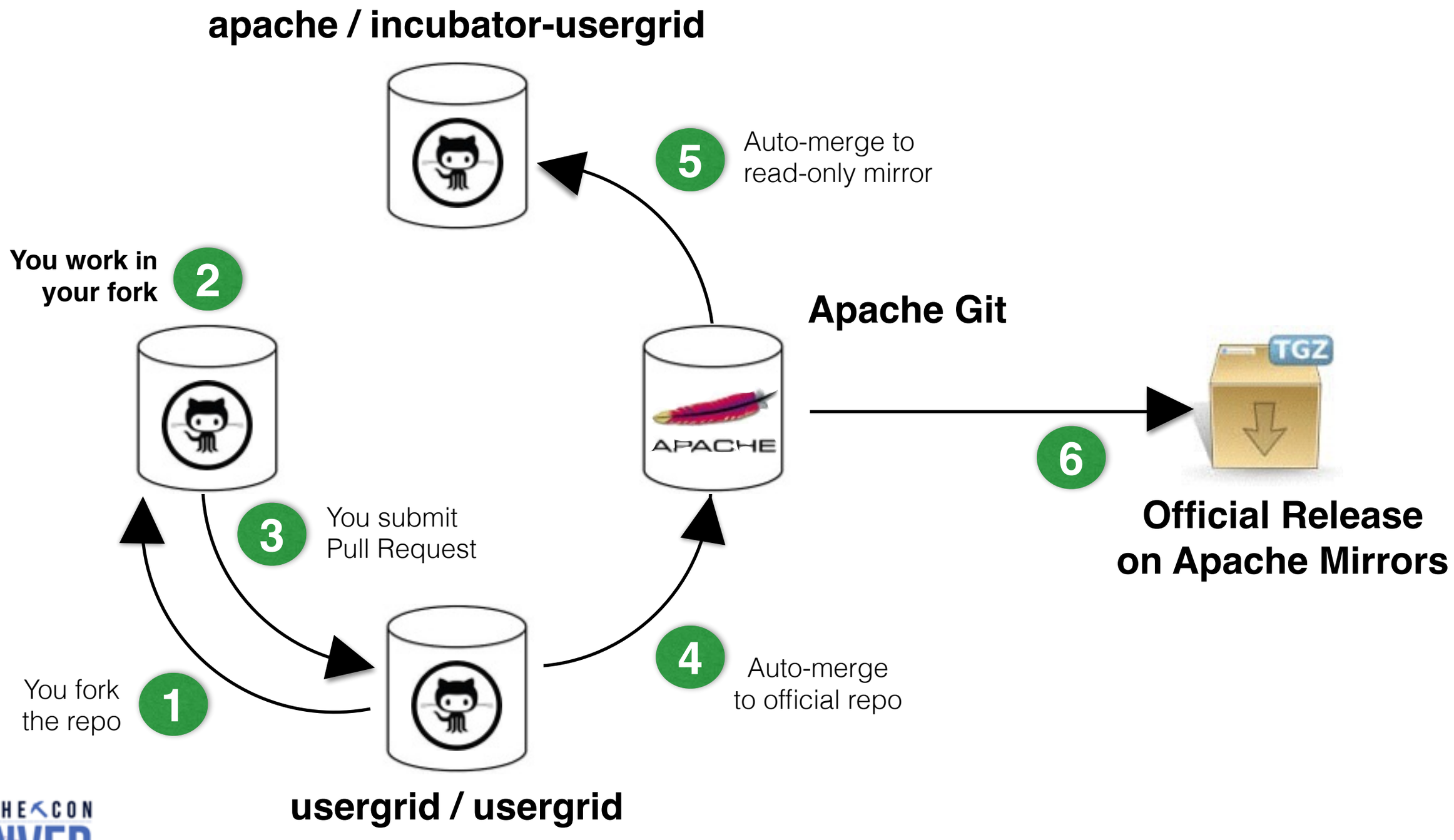
Showing **1 changed file** with **1 addition** and **1 deletion**.

Show diff stats

2 README.md

Source | Rendered | Open | View

Git repos workflow



All that for a tiny change?

- Can’t be bothered?
- You have two options for small changes:

1. Submit Patch via JIRA
    - (agreeing to license your change under ASL)
2. Submit Pull Request via GitHub
    - (agreeing to license your change under ASL)

apache usergrid_

The BaaS *not* made for Hipsters

Designed for multi-tenancy & operational predictability. Built on Java 7, Jersey & Apache Cassandra, with SDKs for iOS, Android, HTML5/JS, node.js, Ruby, Java, .NET, PHP – and so much more. Open source since 2011.

Currently undergoing incubation at the Apache Software Foundation

Star Fork

Users

Sign up users, log in, reset passwords and more, in just one API call. You can put users in

Data

If you can express it in JSON, we can store it! Underneath everything is stored in a standard

Files

Our asset storage can handle anything from text files to videos of several terrabytes, with

Query Language

> *Query examples in this content are shown unencoded to make them easier to read. Keep in mind that you might need to encode query strings if you're sending them as part of URLs, such as when you're executing them with the cURL tool.*

The following example retrieves a list of restaurants (from a restaurants collection) whose name property contains the value "diner", sorting the list in ascending order by name:

```
/restaurants?ql=select * where name contains 'diner' order by name asc
```

Basic syntax

Queries of Apigee data for Apache Usergrid are made up of two kinds of statements: the path to the collection you want to query, followed by the query language statement containing your query. These two statements are separated by "?ql=" to indicate where the query language statement starts.

Contributing Docs

- Web site and documentation in SVN:

  http://svn.apache.org/viewvc/incubator/usergrid/site/

- Content authored in Markdown

- Build process requires Pandoc, Python & Ruby

- Contributors must submit patches via JIRA

- We need to fix this

http://svn.apache.org/viewvc/incubator/usergrid/site/README.md?view=markup

Roadmap

- Get a first Apache release out
- Graduate!
- Usergrid “2.0” with new Persistence Engine
- Other ideas…
  - https://issues.apache.org/jira/browse/USERGRID-8

First release

- Team working slowly towards first release
- What's needed?
  - License headers everywhere
  - Decide on release packaging
  - Installation & getting started documentation
  - A successful release vote

WIP: two-dot-o branch

- New Core Persistence Library
  - New guts for the `EntityManager`
  - Multi-Version Concurrency Control (MVCC)
  - Astyanix, RxJava, Hystrix and Guice
  - ElasticSearch Index & Query implementation

Questions?