THE

APACHE®

SOFTWARE FOUNDATION

apache.org

Apache Explained

Presented by
Roman Shaposhnik
Craig Russell
Justin Mclean

Including original work of
Bertrand Delacretaz and other
amazing ASF contributors

Who is Roman Shaposhnik?

- Engineer and Entrepreneur
  - Founder of ZEDEDA Inc. (IoT Edge platform company)
  - Ex-director of Open Source Strategy at Pivotal Inc.
  - Ex- Sun microsystems, Huawei, Yahoo!, Cloudera
- Apache Committer - from 2010
- Apache Member - from 2014
- Apache Board Member and VP of Legal Affairs - from 2018
- Member, Incubator Project Management Committee, Bigdata

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http://www.apache.org/

Apache Software Foundation: The World's Largest Open Source Foundation

The ASF's Mission

The Apache Software Foundation (ASF) is a US 501(c)(3) charitable organization.
Its mission is to provide Open Source software for the public good.
We do this by providing services and support for many like-minded software project communities of individuals who choose to join the ASF.

A **neutral space** where projects which are **independent** from any corporate influence can prosper and create **Open Source software** for the **public good**. Under the business-friendly Apache License 2.0

photos:
http://archive.apachecon.com/c/

Established as a public charity in 1999

Mission:

To provide software

at no charge

for the public good.

6513 Committers

730 Members

196 PMCs

52 Podlings

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First Project

World's Most Popular Server

2018: 23rd Anniversary
[19 years at the ASF]

Apache Project Domains

Artificial Intelligence

Internet of Things

Big Data

Financial Management

Climate Change

...

Not Apache Project Domains [Yet]

Robot Apocalypse

Autonomous Vehicles

Interplanetary Exploration

Blockchain

Your Project Here

ASF provides project governance

“The Apache Way”

“The Apache Way” core principles

- ➔ **Rough consensus and working code**
- ➔ **Small reversible steps**
- ➔ **Any constructive contribution DOES earn merit…**
- ➔ **…while corporate affiliation and seniority DOESN’T**
- ➔ **Merit doesn’t expire**
- ➔ **Merit doesn’t give you authority; it gives you access**
- ➔ **No BDFLs, no vetoes - relying on building consensus instead**

“The Apache Way”
AKA
“Community over code”

Why the ASF Works: The Apache Way

- **Meritocracy** — Individuals earn merit by what they do and how.
- **Transparency** — Our projects are developed in the open, so everyone who wants to participate is able to.
- **Community** — We place community health over all else.

And yet it is NOT the right fit for every project

The Apache Way Ensures:

- → **Vendor Neutrality**
- → **Diversity**
- → **Trust**
- → **Safety**

Big Data

Cloud

Database

Web Frameworks

PLATINUM SPONSORS:

Cloudera

Comcast

Facebook

Google

LeaseWeb

Oath

Microsoft

Pineapple Fund

TARGETED PLATINUM SPONSORS:

Sonatype

Microsoft

DLA Piper

Oath

OSU Open Source Labs

SILVER SPONSORS:

Aetna

Budget Direct

Capital One

Cerner

Inspur

Private Internet Access

Red Hat, Inc.

Target

Union Investment

TARGETED SILVER SPONSORS:

Amazon Web Services

Hotwax Systems

Rackspace

GOLD SPONSORS:

Anonymous

ARM

Bloomberg

Hortonworks

Huawei

IBM

Indeed

ODPi

Pivotal

TARGETED GOLD SPONSORS:

Atlassian

The CrytpoFund

Datadog

PhoenixNAP

Quenda

And also a number of Bronze sponsors, full up-to-date list at http://www.apache.org/foundation/thanks.html

Who is Craig Russell?

- Software Architect
  - Object Data Management Group
  - Java Data Objects (JDO)
  - Database Jones (MySQL)
- Apache Committer - from 2005
- Apache Member - from 2007
- Apache Secretary - from 2010
- Member, Incubator Project Management Committee

Why existing projects come to Apache

- **Corporate Citizenship** — Give to charity
- **Higher Quality** — More developers with different perspectives
- **Collaboration v. Competition** — It's easier to work with competitors on open source projects that benefit everyone
- **"Free" Training** — The community can train your new developers easier than you can
- **Legal Protection** — The ASF protects contributors

The Apache Incubator

- ➔ The official entry path for projects to enter The Apache Software Foundation.
- ➔ Mentorship helps train communities in "The Apache Way".

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Podlings Undergoing Development

APACHE INCUBATOR

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The Apache Incubator

- ➔ Learn The Apache Way
- ➔ Build the Community
- ➔ Establish Licensing
- ➔ Integrate Infrastructure
- ➔ Release

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The Apache Incubator

- ➔ Takes 1-2 years sometimes longer
- ➔ Graduate to a Top Level Project
- ➔ Not all projects graduate

Incubation: Build the Community

- **Users** — Users are the reason a project exists. No users ⇒ no project
- **Contributors** — Our projects depend on contributions from the community -- bug reports, email discussions, bug fixes, documentation
- **Committers** — Frequent contributors become committers after demonstrating merit
- **Project Management Committee Members** — The PMC is responsible for setting the direction of the project, authorizing releases, and voting new committers and PMC members

Community

- **Politeness** — Be nice
- **Respect** — Everyone's point of view has value
- **Trust** — Assume the best intentions
- **Humility** — Others might have better ideas

Code of conduct:
https://www.apache.org/foundation/policies/conduct.html

Incubation: Licensing is a key aspect

- **Provenance** — Establish where every line of code originated
- **Trademarks** — Must not conflict with existing names
- **Software Grants** — The owner of the intellectual property of existing code/test/documentation must grant rights to Apache
- **Contributor Licenses** — Contributions while at Apache are governed by contributor licenses:
  - Copyright
  - Patent
  - Distribution/Modification

Infrastructure: Keeping the wheels on

- **Mail lists** — “If it isn’t on an archived list, it didn’t happen”. Communication and review are essential to project governance.
- **Source repository** — Viewing all parts of the system is open to the public. Changes are made only by committers via procedures established by the PMC.
- **Build/Test** — Most projects now incorporate continuous integration build and test processes.
- **Establish a Web Presence** — Each project has its own unique web page https://project.apache.org

Release distributions

- **Legally an act of the Foundation**
  - **“Does NOT need to work”**
  - **“Does need proper licensing”**
- **Authorized by the Project Management Committee**
  - **Vote required**
  - **Digital Signature(s) required**
- **Distributed via extensive mirror system**

Incubation: Graduation

- **Demonstrate that the project can operate independently:**
  - **Self-governance**
  - **Release management**
- **Establish legal framework**
- **Publicity**

Who is Justin Mclean?

- Freelance developer for 25+ years
  - IoT Meetup Sydney
- Apache Committer - from 2012
- Apache Member - from 2014
- Member, Incubator Project Management Committee, VP Apache Incubator, VP Apache Mynewt
- Mentor for Dubbo, RocketMQ and sApex

Apache License

- ➔ Universal donor
- ➔ Pragmatic
- ➔ Free for commercial and non-commercial use
- ➔ Compatible with other Open Source licenses

Releases

- ➔ Are signed
- ➔ Need an incubating disclaimer
- ➔ Have LICENSE and NOTICE files
- ➔ Follows license terms of ALv2 and any included 3rd party software
- ➔ Source files have ASF headers
- ➔ Consist of source with no compiled code

Voting on Releases

- ➔ Vote in the open on mailing list
- ➔ Vote open for 72 hours
- ➔ Release needs to comply with ASF policy
- ➔ Needs 3 +1 votes and more +1's than -1's
- ➔ A -1 vote (a veto) doesn't block the release
- ➔ -1 needs to have a reason to be valid
- ➔ Can change your vote
- ➔ If vote passes then the IPMC votes on the release
- ➔ If vote fails then create new release candidate and vote again

Why you might vote -1

- ➔ Unexpected compiled code in release
- ➔ Includes software with incompatible license
- ➔ Issue with LICENSE and NOTICE files
- ➔ Issue with copyright
- ➔ Missing ASF headers
- ➔ Contains encryption software

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Practice makes perfect

- ➔ Not expected to get it right first off
- ➔ Licensing is complex
- ➔ May not be familiar with policy
- ➔ Policy doesn’t cover all situations
- ➔ Policy is more guidelines, there are few absolute rules
- ➔ Release early and release often
- ➔ Each release better than the last

Licensing

- **Category A** - can depend on and include in release
  - MIT, 2 and 3 clause BSD
- **Category B** - can depend and may be able to include
  - Common Development and Distribution License (CDDL), Eclipse Public License (EPL), Mozilla Public License (MPL), Creative Common Attribution (CC-A)
- **Category X** - can't depend on or include in release
  - GPL, LGPL, non commercial licenses, JSON

Binary releases

- ➔ Are not required
- ➔ Are not official releases
- ➔ Also need to follow policy

Growing the community

- ➔ Recognising merit
- ➔ Initially committers == PPMC
- ➔ PPMC appoint new committers and PPMC members

Frequently Asked Questions

- ➔ **What is BDFL**
- ➔ **What are Rule of 3 and Rule of 72**
- ➔ **What is JFDI**
- ➔ **What are RTC/CTR**
- ➔ **What is Lazy Consensus**

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Support The ASF

- ➔ The ASF is funded through **tax-deductible contributions** from corporations, foundations, and private individuals
- ➔ **the ASF spends 10% or less on overhead**
- ➔ ASF Infrastructure keeps Apache critical support services running 24x7x365 for **less than US$5K per project/year**
- ➔ Help keep Apache software projects **freely available to ALL** around the world