



THE
APACHE®

SOFTWARE FOUNDATION
apache.org



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<http://www.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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***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



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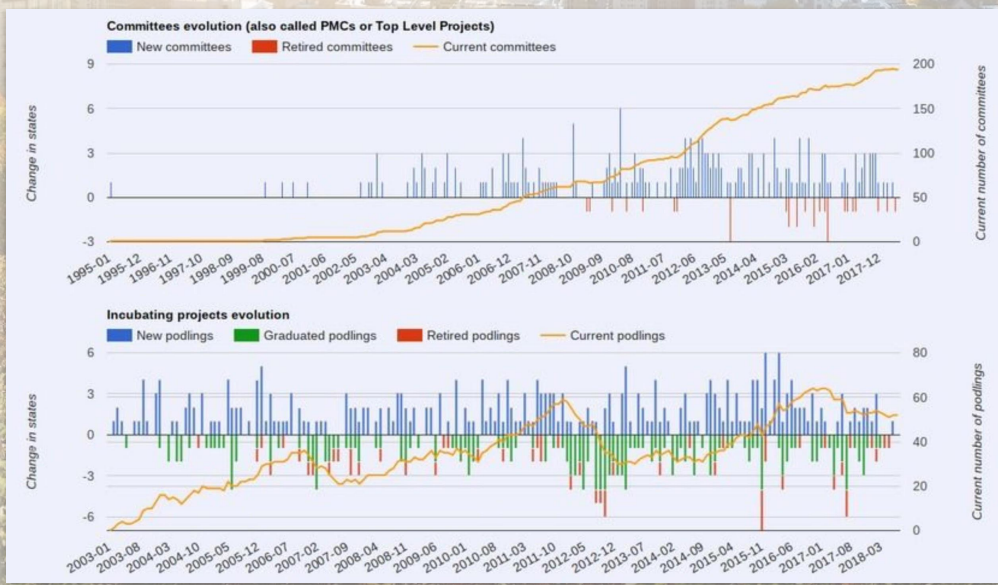
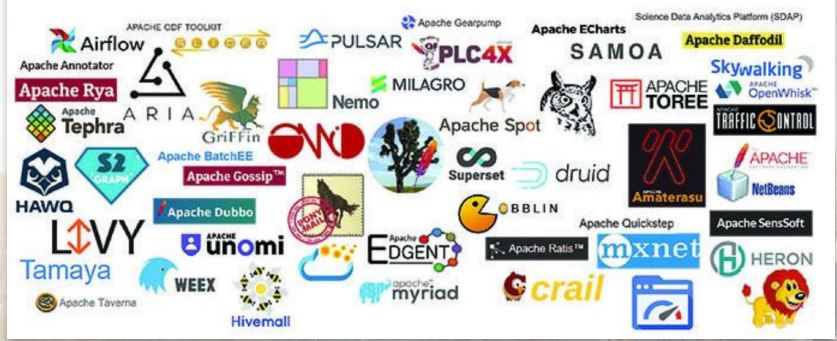
Established as a public charity in 1999

Mission:

***To provide software
at no charge
for the public good.***



6513 Committers
 730 Members
 196 PMCs
 52 Podlings





First Project

APACHE
HTTP SERVER



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

...



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Not Apache Project Domains [Yet]

Robot Apocalypse

Autonomous Vehicles

Interplanetary Exploration

Blockchain

Your Project Here



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ASF provides project governance

“The Apache Way”



“The Apache Way” core principles

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



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“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



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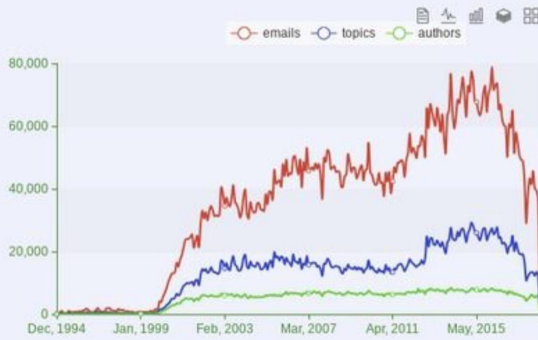
The Apache Way Ensures:

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

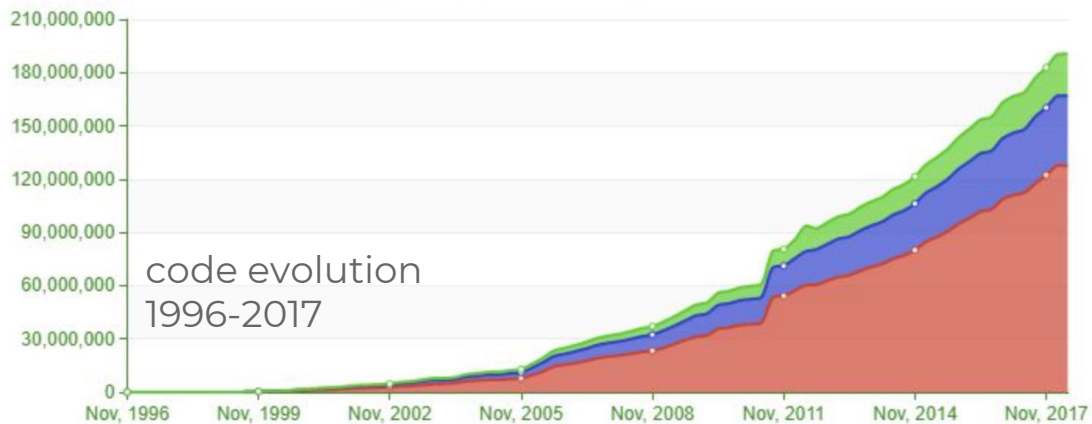
Number of issues opened/closed, all time:



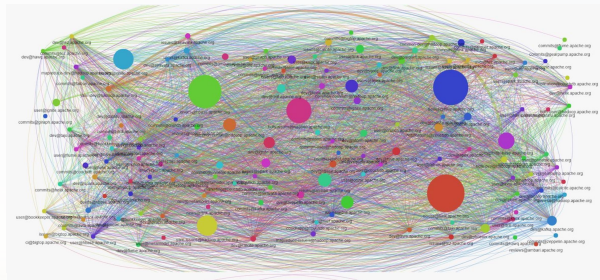
Email, topics and email authors, past year:



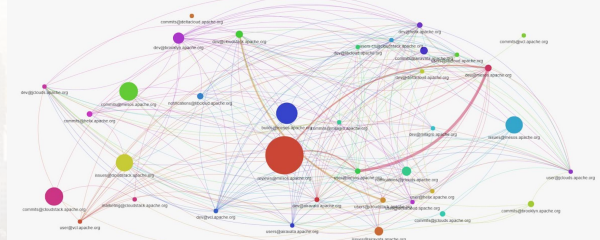
code evolution 1996-2017



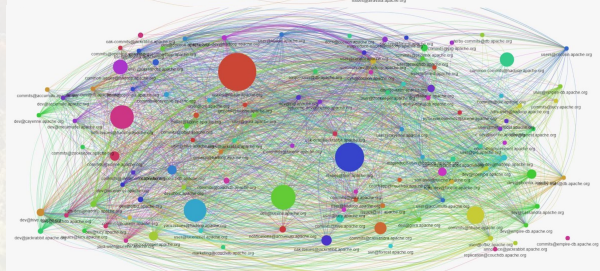
Big Data



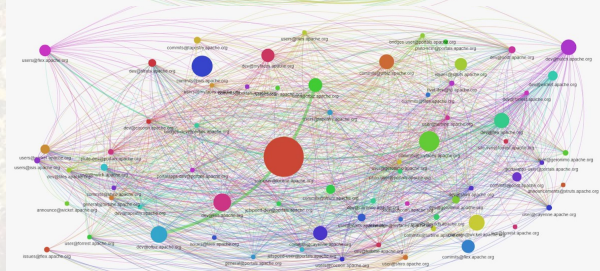
Cloud



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:

ARM

Bloomberg

Hortonworks

HUAWEI

IBM

Indeed

ODPi

Pivotal

TARGETED GOLD SPONSORS:

Atlassian

The CryptoFund

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



The Apache Incubator

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



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



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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 term of ALv2 and any included 3rd party software
- Source files have ASF headers
- Consist of source 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



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**

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

