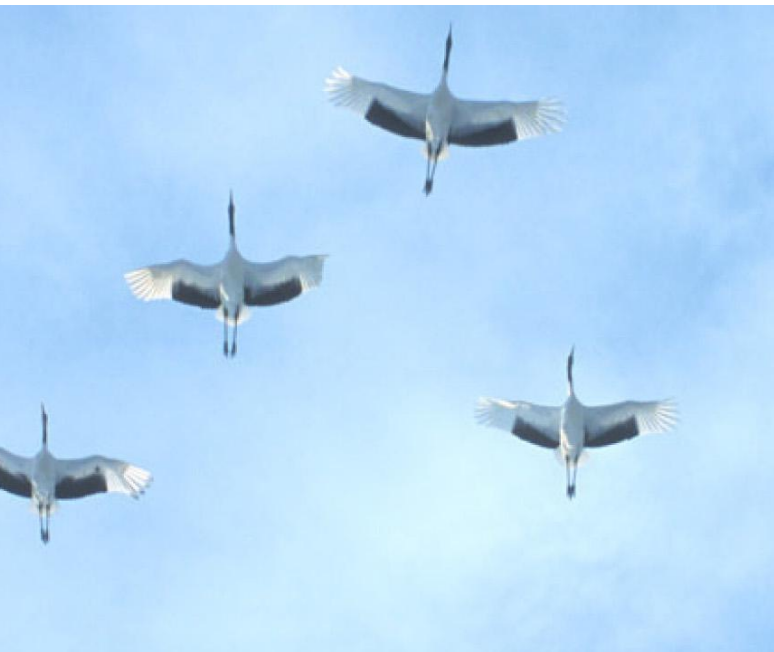


How to Contribute to ONOS

David Boswell, *ON.Lab* @ ONS2016



- The ONOS Mission
- The ONOS Community
- Where To Start
- Contribution Opportunities
 - Coding
 - Documentation
 - Spreading the word
 - Design
 - And more



ONOS is building a better network

- We are pursuing our vision of what networking could be for the public good
- We want to fix closed, proprietary, complex, expensive and inflexible networks
- We want networks that are enabling innovation rather than impeding innovation

Join us on our mission!

The ONOS Community



- ON.Lab provides architecture shepherding and core engineering with focus
- Leading service providers make ONOS & SDN/NFV solutions relevant to them
- Leading vendors help make ONOS and SDN/NFV solutions real: ready for deployment
- Collaborating organizations help grow the community and grow the impact



- Both organizations and individuals are welcome
- Formal [membership is available](#) to organizations at both the Partner and Collaborator tiers
- Membership can include participation in our Board, joint marketing activities and ability to learn from experts in SDN & NFV
- **Membership is not required** to take part in the community -- any person or organization is welcome to join and participate



ONOS A Year Ago

ONOS Today

Partners: 1 Service Provider and 6 Vendors	Partners: 5 Service Providers and 8 Vendors
Collaborators: A handful of organizations	Collaborators: Over 40+ organizations
Registered Users: A small group	Registered Users: Over 950
Contributions: Mostly from ON.Lab	Contributions: Diversifying quickly (Huawei, Fujitsu, NEC, SK Telecom, ONF, Create-Net, Ericsson...)

Where To Start: Communication



Say hi and ask for help at:

- [Mailing lists](#)
- [Slack](#)
- [Twitter](#)
- [Meetings](#)

Find this on the wiki at: <http://onosproject.org/login/>



Learn the basics at:

- [Tutorials](#)
- [Screencasts](#)
- [Guides](#)
- [Javadocs](#)
- [FAQs](#)

Where To Start: Tools



Register for an account at:

<http://onosproject.org/register/>

#ONOSProject

The screenshot shows the 'Welcome to ONOS' registration page. It features a blue header with the title and a sub-header explaining that registration creates a single sign-on for ONOS Tools (Jira & Gerrit) and Documentation. Below this is the 'User Registration' section with a note that all fields marked with an asterisk are mandatory. The registration form consists of several input fields arranged in two columns. The left column contains 'First Name*', 'Last Name*', 'Company', and 'Email*'. The right column contains 'Username*', 'Password* (min 8 characters)', and 'Confirm the password*'. There are also error messages for the 'Username*' and 'Password*' fields stating 'The field is mandatory'. At the bottom right, there is a checkbox for 'I'm not a robot'.

Welcome to ONOS

By registering below you will create a single sign-on that gives you access to ONOS Tools (Jira & Gerrit) & Documentation (PDFs)

User Registration

All fields marked with * are mandatory.

First Name*

Last Name*

Company

Email*

Username*

The field is mandatory

Password* (min 8 characters)

The field is mandatory

Confirm the password*

☐ I'm not a robot

Where To Start: Tools



Issue tracking and project management at:

<https://jira.onosproject.org/>

#ONOSProject

The screenshot shows the Jira System Dashboard for the ONOS project. The top navigation bar includes links for Jira, Dashboards, Projects, Issues, Capture, Agile, and a Create button. The main content area is titled 'System Dashboard' and contains several sections:

- Introduction:** A text box stating 'ONOS is a SDN network operating system designed for high availability, performance, scale-out and rich abstractions. Learn more about ONOS at onosproject.org'.
- Agile Sprint Health Gadget:** A yellow warning box with an exclamation mark icon, stating 'The selected sprint for this gadget is not currently active.'
- Assigned to Me:** A table listing tasks assigned to the user.

T	Key	Summary	P ↓
📌	ONOS-3242	Make documentation contribution information easier to find	↑
📌	ONOS-3243	Create proposal for increasing number of code reviewers	↑
📌	ONOS-3319	Directly link to contribution wiki pages from How to Contribute page	↑
📌	ONOS-3447	Redesign new ONOS home page to better promote contribution opportunities	↑
📌	ONOS-3448	Reorganize and simplify ONOS site nav to promote contribution info	↑
📌	ONOS-3449	Review and update content on ONOS project site to clarify contribute info	↑
📌	ONOS-3597	Create wikipedia page about ONOS Project	↑

On the right side of the dashboard, there is a sidebar with an 'Activity Stream' section showing 'ONOS' and a 'Today' section with a user profile picture.

Where To Start: Tools



Project documentation wiki at:
<https://wiki.onosproject.org/>

#ONOSProject

The screenshot shows the ONOS Wiki Home page. The top navigation bar includes links for Wiki, Spaces, People, Browse, and a Create button. A search bar is located below the navigation bar. The left sidebar contains a list of links: ONOS for Newcomers, Download packages and tutorial VMs, Documentation Library, Use Cases, Events, Mailing Lists, Releases, System Tests, Security advisories, Community Acknowledgements, Feature Proposals, Meetings, Whitepapers, and Docs for all ONOS releases. The main content area features the ONOS Wiki Home header, a creation notice by System Administrator, and a welcome message for ONOS master documentation. It also includes an Overview section with links to ONOS for Newcomers, Use Cases, and ONOS Governance, a Community section with links to Events, Mailing Lists, and Slack, and a Resources section with a link to Tutorials.

Wiki Spaces People Browse Create

Search

ONOS Wiki Home

Created by System Administrator, last modified by Yuta Higuchi on Jan 0

This documentation is for ONOS master. If you'd like to see the Avocet (1.0), Blackbird (1.1), Cardinal (1.2), or Drake (1.3), please see the corresponding version's documentation.

Welcome to the Open Network Operating System (ONOS)

This wiki aims to provide up-to-date information about the ONOS project. If you are interested in helping out, or would like to write about something, please see the contributing page.

Overview

- ONOS for Newcomers - videos, presentations, and a quick start guide for those interested in learning about ONOS.
- Use Cases - various projects that have been built using ONOS.
- ONOS Governance - a look into our project model and governance.

Community

If you would like to keep track of the latest news about ONOS, the community has several ways to stay updated:

- Events (Google Calendar) - tech talks, workshops, conferences, and more.
- Mailing Lists - many to choose from – subscribe and discuss.
- Slack - chat with fellow ONOS community members.

Resources

If you are interested in using or working with ONOS, you may find the following resources helpful:

- Tutorials - learn how to use ONOS and develop applications.

Where To Start: Tools



Code repo and review tool at:
<https://gerrit.onosproject.org/>

#ONOSProject

All Projects Documentation				status:c
Open Merged Abandoned				
Search for status:open				
Subject	Status	Owner	Project	
More APIs permission for new ONOS APIs	Merge Conflict	Heedo Kang	onos	
Refactor: Narrow data provided to method		Sho Shimizu	onos	
Refactor: Inline method	Merge Conflict	Sho Shimizu	onos	
Support for watching changes to static cluster metadata file		Madan Jampani	onos	
Refactor: Rename		Sho Shimizu	onos	
Refactor: Narrow data provided to method		Sho Shimizu	onos	
Refactor: Extract method		Sho Shimizu	onos	
Refactor: Narrow data provided to method		Sho Shimizu	onos	
[ONOS-3952] Implement FloatingIP Handler for OpenstackRoutingService	Merge Conflict	kyuhwi choi	onos	
Override toString for flow objectives		Charles Chan	onos	
Added SegmentRouting tests 0.0	Merge Conflict	Flavio Augusto De Castro Junior	OnosSystemTe	
Framework of the new CHOTest		You Wang	OnosSystemTe	
SM-ONOS performance improvement		Heedo Kang	onos	
removed code duplication in translator, and addressed review comments	Merge Conflict	VinodKumarS-Huawei	onos	
Add path intent compiler that generates flow objective intents		Ray Milkey	onos	
PCEP modification to support PCEP-LS		Mahesh Poojary Huawei	onos	
Add MPLS encapsulation behaviour ONOS-3467		Michele Santuari	onos	
Removed leftover openstack applications		Hyunsun Moon	onos	
Added E-CORD metro path provisioner.		Naoki Shiota	onos-app-samples	
Add support for OTU ports in TributarySlotQuery		Rimon Ashkenazy	onos	
[ONOS-3946] Implement LcmpHandler for OpenstackRoutingService - Process Lcmp ...	Merge Conflict	Daniel Park	onos	
Separated OpenstackInterface feature from OpenstackNetworking application.		Sangho Shin	onos	
Separate options for disabling upstart/init.d installation		Bob Lantz	onos	
YANG construct collision detection framework added		GauravAgrawal-Huawei	onos	



Code review scores

- -2: the patchset will not be merged
- -1: the patchset requires major changes
- 0: not reviewed or some minor changes are required
- +1: looks good to reviewer but require other reviewers' confirmation
- +2: looks good and approved by module owner

Note: two +1s is not equal to +2

Where To Start: Tools



ONOS is on Github at:

[https://github.com/
opennetworkinglab/onos](https://github.com/opennetworkinglab/onos)

*Note: this is a read-only mirror --
don't submit code through Github*

The screenshot shows the GitHub repository page for 'opennetworkinglab / onos'. The repository is titled 'Open Network Operating System'. It has 6,557 commits, 8 branches, and 18 releases. The current branch is 'master'. A green button 'New pull request' is visible. Below the repository information, there is a commit history table. The commit history table lists recent commits with their titles and descriptions. The commit titles are: 'Fix NPE in SegmentRoutingManager', '[ONOS-4015] Enhance Region CLI to support add/update NodeIds sets', 'Remove base (p0) partition in StorageManager', 'Cleaning up and re-organizing javadocs; it's time to start splitting ...', 'fix olt cookie issue', 'Remove references to onlab-netty and onlab-nio', 'Fixes some issues that were preventing intent tests from running', 'Updating copyright; using as a test for new module owner permissions.', 'Adding a grid topology simulator to the null provider.', and 'Clarify config parameters/environment variables'.

Commit	Message
apps	Fix NPE in SegmentRoutingManager
cli	[ONOS-4015] Enhance Region CLI to support add/update NodeIds sets
core	Remove base (p0) partition in StorageManager
docs	Cleaning up and re-organizing javadocs; it's time to start splitting ...
drivers	fix olt cookie issue
features	Remove references to onlab-netty and onlab-nio
incubator	Fixes some issues that were preventing intent tests from running
protocols	Updating copyright; using as a test for new module owner permissions.
providers	Adding a grid topology simulator to the null provider.
tools	Clarify config parameters/environment variables

#ONOSProject

Where To Start: Tools



Continuous integration at:
<https://jenkins.onosproject.org/>



Jenkins

Jenkins

- People
- Build History
- Project Relationship
- Check File Fingerprint


Build Queue (5)

- [onos-gerrit](#)
- [onos-master](#)
- [onos-app-samples-gerrit](#)
- [onos-gerrit](#)
- [onos-gerrit](#)

Build Executor Status

1	onos-gerrit	<div><div></div></div>	#12238
2	onos-gerrit	<div><div></div></div>	#12239
3	onos-gerrit	<div><div></div></div>	#12240

All

S	W	Name ↓
		copycat-master
		onos-app-sam
		onos-gerrit
		onos-master
		onos-nightly
		onos-sonar

Icon: [S](#) [M](#) [L](#)

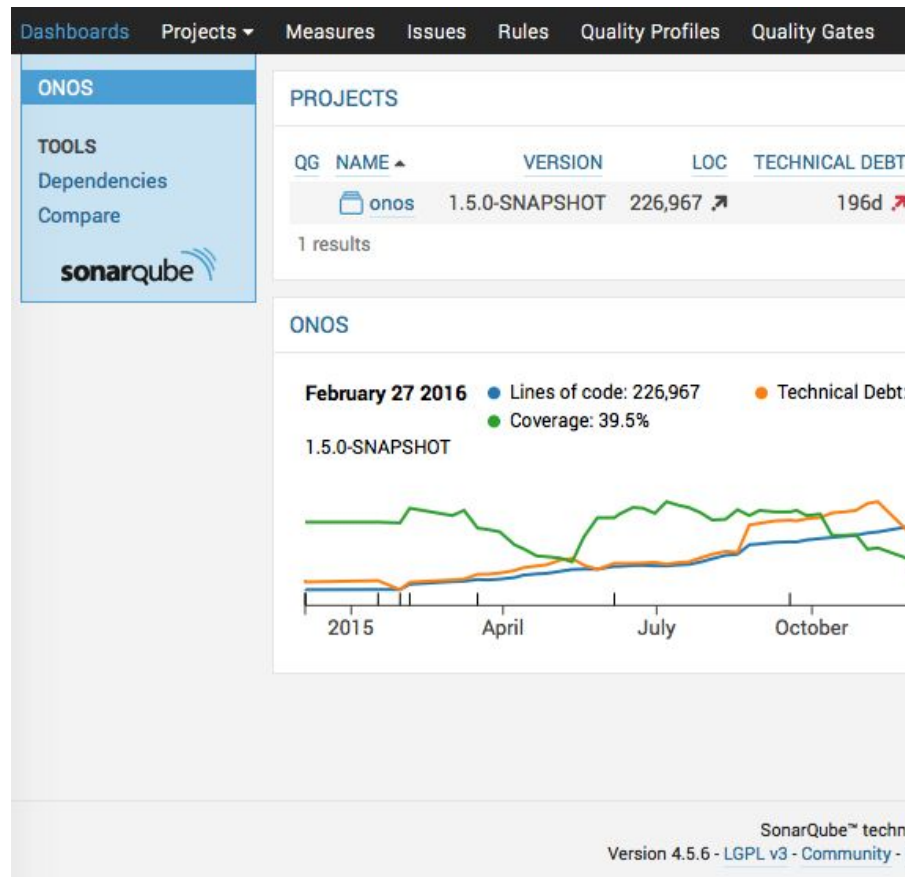
#ONOSProject

Where To Start: Tools



Code quality tool at:

<https://sonar.onosproject.org/>



#ONOSProject

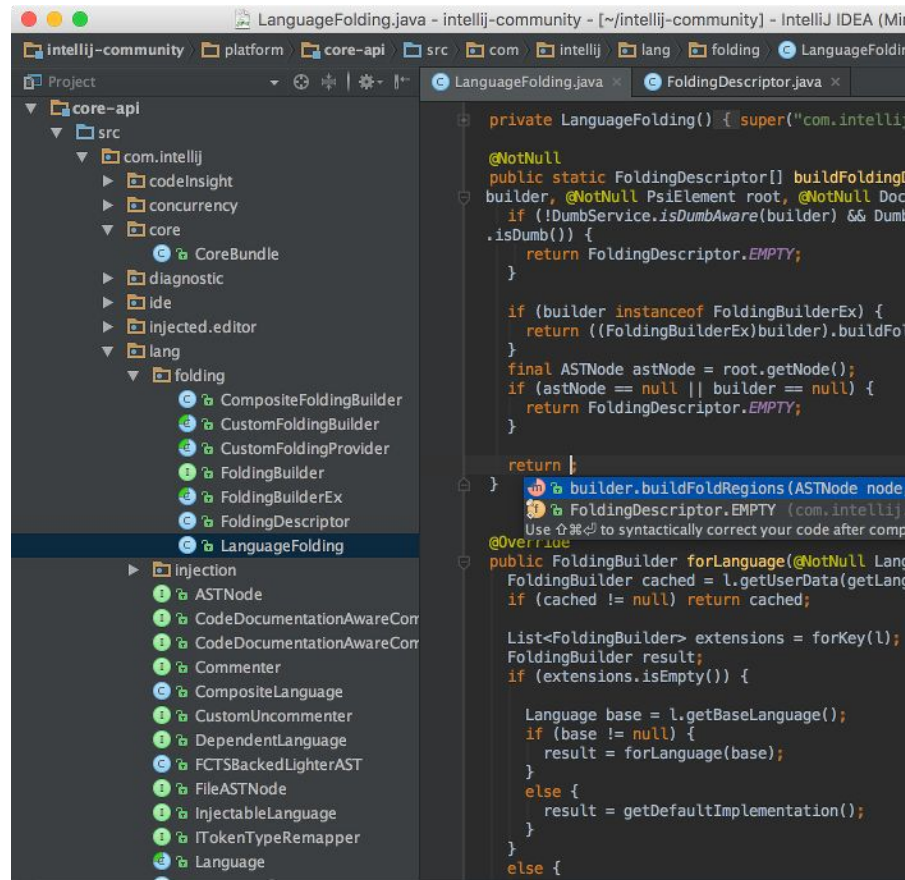
Where To Start: Tools



IntelliJ IDEA Java IDE at:

<https://www.jetbrains.com/idea/>

Note: There is a free Community Edition available





- Coding
- Documentation
- Spreading the word
- Design
- And more

Find this on the wiki at: [A Beginner's Guide to Contribution](#)

Contribution Opportunities



Keep your eye on our Twitter account after ONS:

https://twitter.com/ONLab_ONOS

Prizes, recognition and bragging rights available!





- Scratching your own itch
- Helping the core team with the roadmap
- Building apps on top of ONOS

Find this on the wiki at: [Contributing to the ONOS Codebase](#)

Scratching Your Own Itch



- For small fixes, [submit a patch for review](#)
- For larger fixes or for new features, please submit a proposal to the [Tech Steering list](#) before submitting code
- Proposals help us support you by giving feedback early and will help us determine how your change fits in with future releases

Steps For Submitting Code



1. Create and switch to a new branch
2. Make changes to the code
3. Test the changes
4. Commit the changes
5. Pull upstream changes
6. Sync the branch with updated master
7. Submit code for review

Find this on the wiki at: [Sample Gerrit Workflow](#)

Also note our [Code Style](#) and [Unit Test Guidelines](#)

Example of a Feature Proposal



There is no set structure to follow, but the [IPv6 Feature Proposal](#) provides a nice template you can follow.

- Project Contributors
- Overview
- Design
- Completed Tasks
- Remaining Tasks

Helping Core Team With Roadmap



- Get familiar with our processes by working on a [starter bug](#)
- Next take a [bounty bug](#) -- we'll be happy to thank you with some ONOS swag for fixes to bounties
- Start attending [sprint planning and sprint demo meetings](#)
- Help wanted with virtualization, build infrastructure, GUI refresh and more



- Stay right here for a demo of how to get started building apps for ONOS
- 4:00 - 4:40 PM: Developing Apps with ONOS -- Live Demos of SDK
- Find this on the wiki at: [Creating and deploying an ONOS application](#)



- Join us on [#onos-docs on Slack](#) or on the [Docs Community call every other Wednesday](#)
- Take a documentation [bounty bug](#) -- we'll be happy to thank you with some ONOS swag for fixes to bounties
- The documentation contribution area is new and we welcome your help in shaping it -- if you love docs and want to help us build a doc community, join us



- Share about ONOS and use the **#ONOSProject** hashtag on your social networks
- Share more than technical information — social activity, like having a lunch with other ONOS community members, is great content to post too
- Subscribe to our [Twitter account](#) and retweet posts that you think are interesting
- Like us on our new [ON.Lab Facebook page](#)

Spreading The Word Contributions



- We're starting an ONOS Ambassadors program and want people from around the world to take part
- We're looking for people who want to give presentations and talk to people about ONOS in the areas where you live
- If this sounds like something you're interested in, please reach out to david@onlab.us



- We're looking for people who are interested in design, UX and UI who want to get involved with the ONOS community
- Many open source communities have vibrant design communities, such as the [Fedora Design Team](#)
- The design contribution area is a new effort and we welcome your help in shaping it -- if you want to help, please reach out to david@onlab.us



- **Testing:** [Submit any ONOS bugs](#) you find and learn about our [System Test](#) setup
- **Code review:** We encourage people to help with code review and we grant [Module Owner status](#) to people who do exceptional reviews
- **Community:** Help us create and execute a strategy to strengthen the ONOS community by joining the [Community Steering Team](#)
- **Bring your idea to us:** As an open source project, we welcome your ideas. If you have a contribution idea not listed here, share your idea on the [onos-discuss list](#).

One More Thing...



CORD

Central Office Re-architected as a Datacenter

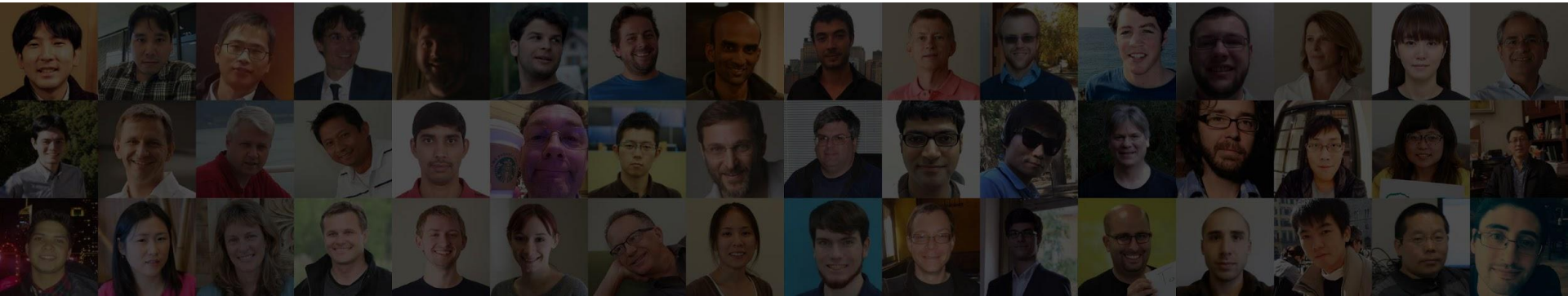
- A CORD Community will be launching soon in May
- There will be many contribution opportunities there to get involved with
- Learn more at <http://www.opencord.org/>

Speak with Community Members



Stop by our booths in the SDN Solutions Showcase to ask questions, share ideas and get involved

- ONOS booth SU4
- Global Deployment Powered by ONOS (25B)
- R-CORD (25J), E-CORD (25N), M-CORD (25O)



Any Questions?

