OpenStack Community Welcome Guide

Contents

Getting Started with the OpenStack Community

Welcome to the global OpenStack community, home of the leading open source cloud infrastructure solution. This document is meant for anyone interested in learning more about OpenStack, how the community operates, and where to go for the information you need. It is intended for new community members looking to get started, and as a way to quickly understand the development process and basic community "rules."

If you need more information or have additional questions, please contact the community manager, Stefano Maffulli, at communitymngr@openstack.org.

What is OpenStack?

OpenStack is a global collaboration of developers and cloud computing technologists producing the open standard cloud computing platform for both public and private clouds. The project aims to deliver solutions for all types of clouds by being simple to implement, massively scalable, and feature rich. The technology consists of a series of interrelated projects delivering various components for a cloud infrastructure solution.

OpenStack Principles

- **Open development model**: All of the code for OpenStack is freely available under the Apache 2.0 license.
- Open design process: Every six months the development community will hold a design summit to gather requirements and write specifications for the upcoming release. The summits are open to the public and attendees include users, developers, and upstream projects.
- **Open community**: OpenStack is dedicated to producing a healthy, vibrant, and active developer and user community. Most decisions will be made using a lazy consensus model. All processes will be documented, open and transparent.

OpenStack Projects

OpenStack currently consists of three core software projects to get involved in.

- **OpenStack Compute** (code-named Nova)
  http://www.openstack.org/projects/compute/
  OpenStack Compute is open source software designed to provision and manage large networks of virtual machines, creating a redundant and scalable cloud computing platform. It gives you the software, control panels, and APIs required to orchestrate a cloud, including running instances, managing networks, and controlling access through users and projects.

OpenStack Compute strives to be both hardware and hypervisor agnostic, currently supporting a variety of standard hardware configurations and hypervisors.

- **OpenStack Object Storage** (code-named Swift)
  http://www.openstack.org/projects/storage/
  OpenStack Object Storage is open source software for creating redundant, scalable object storage using clusters of standardized servers to store petabytes of accessible data. It is not a file system or real-time data storage system, but rather a long-term storage system for a more permanent type of static data that can be retrieved, leveraged, and then updated if necessary. Primary examples of data that best fit this type of storage model are virtual machine images, photo storage, email storage and backup archiving. Having no central "brain" or master point of control provides greater scalability, redundancy and permanence.
  Objects are written to multiple hardware devices in the data center, with the OpenStack software responsible for ensuring data replication and integrity across the cluster. Storage clusters can scale horizontally by adding new nodes. Should a node fail, OpenStack works to replicate its content from other active nodes. Because OpenStack uses software logic to ensure data replication and distribution across different devices, inexpensive commodity hard drives and servers can be used in lieu of more expensive equipment.
- **OpenStack Image Service** (code-named Glance)
  http://www.openstack.org/projects/image-service/
  OpenStack Image Service provides discovery, registration, and delivery services for virtual disk images. The Image Service API server provides a standard REST interface for querying information about virtual disk images stored in a variety of back-end stores, including OpenStack Object Storage. Clients can register new virtual disk images with the Image Service, query for information on publicly available disk images, and use the Image Service's client library for streaming virtual disk images.

Release Process

http://wiki.openstack.org/ReleaseCycle
OpenStack is currently on a 6-month release cycle, which consists of four stages.

Planning

The Planning stage usually lasts 3 weeks and consists of discussion and feedback on what the next release will focus on. After deciding on the features, we write the corresponding specs on how to make them happen. The Design Summit usually takes place during the second week of the planning stage.

Design Summits

http://wiki.openstack.org/Summit

During the summit developers submit session ideas to discuss upcoming features for the next release cycle. These features get reviewed and scheduled by the summit drivers. The sessions are not formal presentations but rather open discussions on a given subject or feature. Summits happen every 6 months, in the spring and fall, so check the events listing for the next one.

Launchpad Blueprints
http://wiki.openstack.org/BlueprintsLifecycle
OpenStack uses Launchpad Blueprints to track the design and implementation of significant features during the planning and implementation stages.

Implementation
The Implementation stage is split into a number of milestone iterations. The work in progress is published in a branch, which should then be proposed for merging when ready. Code is proposed several weeks before each milestone release date so that it can be reviewed in a timely manner.

QA
This is the testing phase. Testing, prioritizing bugs, and documentation are key parts of the QA phase. Only branches that fix bugs and do not introduce new features are allowed to enter the release branch.

Release
Release Candidate Freeze (RCF) happens two days before the actual Release Day.

Release Naming
http://wiki.openstack.org/ReleaseNaming
Nova releases are numbered using a YYYY.N time-based scheme. For example, the first release of 2012 has the 2012.1 version number.
Glance releases are also numbered using the YYYY.N time-based scheme.
Swift uses a slightly different naming convention than the other core projects. The Swift releases follow a 1.3.0, 1.4.1, etc., format.

During the development cycle, the release is identified using a codename. The codenames are ordered alphabetically and are named after a city or county near where the corresponding OpenStack design summit took place:

- Austin: The first design summit took place in Austin, TX
- Bexar: The second design summit took place in San Antonio, Bexar County.
- Cactus: Cactus is a city in Texas

- Diablo: Diablo is a city in the Bay Area near Santa Clara, CA
- Essex: A county and town near Boston, MA

Governance

http://wiki.openstack.org/Governance
OpenStack projects are guided by the following principle:

"Each project community should be self-managing by the contributors, and all disputes should be resolved through active debate and discussion by the community itself."

Sometimes a debate cannot be clearly resolved. In those times, definitive action is preferable to stalemate. We believe that the person best positioned to rally the community to a decision is a developer elected by their respective community to do so, based upon their expertise and contributions to the project.

Project Policy Board

http://wiki.openstack.org/Governance/PPB
The Project Policy Board is a governance body for OpenStack projects. The Board consists of a mixture of elected and appointed members.

Elections

http://wiki.openstack.org/Governance/Model
Under the OpenStack Governance Model biannual elections will be held for a variety of positions. Each project will elect a Project Technical Lead every six months.

OpenStack Community

OpenStack is a global community consisting of developers, corporations, service providers, researchers, and users.

OpenStack Developers

Licensing

If you are a developer that would like to contribute to one of the above core projects you will need to sign an *Individual Contributor License Agreement*. If you are contributing on behalf of a company, an authorized representative of your company should also sign a *Corporate Contributor License Agreement.* You'll find the most up to date information on http://wiki.openstack.org/HowToContribute.

A list of companies that have already completed a Corporate CLA can be found on http://wiki.openstack.org/Contributors/Corporate

Contributor's wiki
After you have completed the required Individual and Corporate Licensing agreements, add yourself to the contributor's wiki on the Contributors page. Include your Launchpad ID and your CLA Echosign Transaction Number. Then apply for membership to the OpenStack CLA group on Launchpad https://launchpad.net/~openstack-cla/+join. Membership in this group is required in order to submit code changes.

Core Principles
Familiarize yourself with core OpenStack principles:

- What "Open" means http://wiki.openstack.org/Open
- Design tenets http://wiki.openstack.org/BasicDesignTenets
- Coding standards http://wiki.openstack.org/CodingStandards
- The release cycle http://wiki.openstack.org/ReleaseCycle
- The OpenStack branch model

http://wiki.openstack.org/BranchModel

Get the Code
http://wiki.openstack.org/GettingTheCode
Get the code
After your first commit**,** add your name and email address to the *Authors* file.

Bugs
Bugs can be a good place to get your coding feet wet. The list of confirmed and triaged bugs is here: https://bugs.launchpad.net/openstack/+bugs?orderby=-importance&field.status:list=CONFIRMED&field.status:list=TRIAGED

Launchpad
Launchpad is the "home" for the project management and its developers.

Github
Github is the "home" for the project code.

Other good resources for developers

Mailing List
Developer Mailing List Register | Archives

IRC
#openstack on Freenode Pop In (via browser client)

Meetings
http://wiki.openstack.org/Meetings
Various public meetings are held on IRC. Team meetings are held every Tuesday at 21000 UTC.

Meeting Logs

http://wiki.openstack.org/Meetings/TeamMeetingLogs
Archive of the weekly team meetings.

Nova Developers

https://launchpad.net/nova
OpenStack Compute (Nova) is a cloud computing fabric controller (the main part of an IaaS system). It is written in Python.

Developer Documentation: http://docs.openstack.org/developer/nova/

Swift Developers

https://launchpad.net/swift
OpenStack Object Storage (Swift) is a highly available, distributed, eventually consistent object/blob store.

Developer Documentation: http://docs.openstack.org/developer/swift/

Glance Developers

https://launchpad.net/glance
The Image Service (Glance) provides services for discovering, registering, and retrieving virtual machine images. Glance has a RESTful API that allows querying of VM image metadata as well as retrieval of the actual image.

Developer Documentation: http://docs.openstack.org/developer/glance/

Keystone Developers

https://launchpad.net/keystone
The Identity Service (Keystone) offers a common identity management system for OpenStack projects. It provides a RESTful API that allows querying of users, tenants/projects, and roles.

Developer Documentation: http://docs.openstack.org/developer/keystone/

Horizon Developers

https://launchpad.net/horizon
The OpenStack Dashboard (Horizon) provides a Django-based dashboard for managing your instances, storage, and networking through all the OpenStack services.

Developer Documentation: http://docs.openstack.org/developer/horizon/

Quantum Developers

https://launchpad.net/quantum
The Network Connectivity Service (Quantum) gives you the capability to manage networks between guest VMS through a RESTful API that creates networks as you want them defined.

Developer Documentation: http://docs.openstack.org/developer/quantum/

Community Projects

There are many incubator and community projects built around OpenStack that are available to work on and don't require a CLA. A list of these projects and their leads can be found here: http://openstack.org/projects/

OpenStack Ecosystem

A robust ecosystem is essential to OpenStack's success. There are several ways your company can join this growing and vibrant ecosystem.

- Become a Participating Company – OpenStack currently lists all the companies engaged with the community at http://www.openstack.org/community/companies/. If your company would like their logo added to this list please fill in a request following the instructions provided on the form https://docs.google.com/spreadsheet/viewform?formkey=dGJnUHg1YW1mblFUY3dmZDA1dmJzRXc6MQ#gid=1
- Fund your developers to contribute code – Please have an authorized representative of your company sign a Corporate Contributor License Agreement before the first submit. Find all the details on http://wiki.openstack.org/HowToContribute
- Make money on commercial solutions – The more companies that distribute, provide services, or build OpenStack into their offering, the closer that OpenStack will be to becoming the ubiquitous open platform. Current OpenStack business partners include hardware manufacturers, consultants, hosting providers, systems integration specialists, and independent software vendors among many others.

OpenStack Users

OpenStack users from around the world are creating local OpenStack User Groups to promote the open source project and their associated technologies. If you are interested in establishing a user group in your area, please contact the community manager communitymngr@openstack.org.

Current User Groups

The list of user groups is maintained on the wiki on http://wiki.openstack.org/OpenStackUsersGroup

The OpenStack International Community team is the main contact point for anybody running a local OpenStack User Group.

Join the team on Launchpad if you are hosting or want to start a user group with meetups, hackatons and other social events talking about OpenStack and free/libre open source software for the cloud..

Start a User Group
If you are interested in creating a local OpenStack user group, the page above contains good introductory information.
If you have additional questions you can also contact the community manager communitymngr@openstack.org for more information.

Documentation
The docs.openstack.org site is a good place to start with installation information. The custom search engine enables you to search the docs sites and the wiki for technical information. The installation instructions for the core projects are listed below.

Ubuntu

- OpenStack Install and Deploy Manual - Ubuntu
- Installing OpenStack on Ubuntu 12.04 LTS in 10 Minutes
- Installing OpenStack Essex (2012.1) on Ubuntu 12.04 (Precise Pangolin)
- Video: OpenStack Essex Installation Walkthrough from Scratch Part1

Red Hat Enterprise Linux / Fedora

- Installing OpenStack Walk-through
- Installing on Fedora or Red Hat Enterprise Linux 6

Wiki
http://wiki.openstack.org/StartingPage
A lot of good information on getting started with OpenStack core projects can be found in the wiki. The search function in the upper right hand corner of the wiki is very powerful and is searchable by both title and by content.

Forum
http://forums.openstack.org/
The Forum is a good place to find answers about the core projects, futurestack projects or any other general questions about OpenStack.

Bug Reporting
The OpenStack community appreciates testers and their feedback. To report a bug you must first sign up for a Launchpad account.
Check that the bug you found has not already been reported by searching the Launchpad bugs list: https://bugs.launchpad.net/openstack/+bugs?orderby=-importance&field.status:list=CONFIRMED&field.status:list=TRIAGED

If you found a new bug, fill out a bug report:

- Give a clear, concise summary
- Provide as much detail as possible in the description. Paste in your command output or stack traces, link to screenshots, etc.

- Be sure to include what version of the software you are using. This is especially critical if you are using a development branch
  Example: "Austin release" vs lp:nova rev.396.
- Any deployment specific info is helpful as well
  Example: Ubuntu 10.04, multi-node install.

Launchpad bug areas
Nova: https://bugs.launchpad.net/nova
Swift: https://bugs.launchpad.net/swift
Glance: https://bugs.launchpad.net/glance

Share OpenStack
Introduce others to what OpenStack is and does with the following resources:

Overview
OpenStack one page overview: http://www.openstack.org/downloads/openstack-overview-datasheet.pdf

Slides and Webinars
- The most current slide bundle can be found here http://www.box.net/shared/nk74x5u7zx
- More slides and presentations are also available on the OpenStack SlideShare http://www.slideshare.net/group/openstackcloud
- Webinar recordings http://wiki.openstack.org/Webinar%20Series

Community Support Tools

IRC
This is where developers hold real-time discussions on various projects. Public meetings are also held on IRC.
- #openstack on Freenode Pop In (via browser client)

Forums
http://forums.openstack.org/
The OpenStack forums has boards for each of the core projects, FutureStack projects (incubator projects), and general OpenStack questions and answers.

Wiki
http://wiki.openstack.org/StartingPage
Take advantage of the powerful search bar to find answers to your questions.

Contacts
http://wiki.openstack.org/Contact

If you have any questions about OpenStack, and haven't been able to find answers elsewhere, try one of these knowledgeable people!

Mailing Lists

- Developer List Register | Archives -technical discussions on internal product features and code
- OpenStack-Operators Register -email exchange for users of OpenStack projects looking for user support

Documentation

http://docs.openstack.org/
OpenStack Manuals supporting *Compute, Imaging Service* as a part of *Compute,* and *Object Storage*

Online Documentation

Nova http://nova.openstack.org/
Swift http://swift.openstack.org/
Glance http://glance.openstack.org/

Contribute to Documentation

You can collaborate with other authors on the OpenStack documentation for both developers and administrators.

- Join the OpenStack Documentation Group on Launchpad: https://launchpad.net/~openstack-doc
- Create a Launchpad account and contribute to the docs.openstack.org site through the openstack-manuals project.

Social Networks and blogs

You can stay up to date on what's going on at OpenStack by subscribing to the relevant mailing lists (see Mailing Lists above), following us on one of these social networks, or reading the blogs.

Social Networks

- Twitter: @openstack
- LinkedIn
- Facebook
- Ohloh.net: OpenStack | Nova | Swift
- Vimeo
- SlideShare
- Flickr

Blogs

- The OpenStack Blog: http://www.openstack.org/blog/
- A blog aggregated from developers and other key players of OpenStack projects: http://planet.openstack.org/

Events

http://openstack.org/community/events/
OpenStack Design Summits and Conferences take place every 6 months. OpenStack also participates in many cloud and open source conferences throughout the year.
If you are planning an OpenStack event or meet up and you would like it added to the events page, please email your event information to the OpenStack Community Manager communitymngr@openstack.org..

OpenStack Website Layout

This section details the structure of the openstack.org website.

Home

www.openstack.org

Software: Core OpenStack projects and links
Community: Dynamic number of people and companies involved in OpenStack
Latest Activity: Dynamically updated content and news about OpenStack pulled from sources across the web
What is OpenStack: A quick overview of the who and why of OpenStack

Projects

http://www.openstack.org/projects/

Compute: Links to project page for OpenStack Compute
Storage: Links to project page for OpenStack Object Service
Image Service: Links to project page for OpenStack Image Service
Q & A: Answers to common questions about the OpenStack community
The one page OpenStack Datasheet is also available for download here
Community Projects: A list of projects, and their project leads, related to OpenStack core projects

Community

http://www.openstack.org/community/

Events: links to the upcoming event listings
Jobs: links to the OpenStack Job Board

Participating Companies: Links to the logo and solution search site for all company partners in the OpenStack ecosystem
OpenStack Code: Links to the OpenStack site on Launchpad and the getting started wiki page
Mailing Lists: Register for one of the mailing Lists
IRC: the #openstack IRC channel
Social Networks: other places to keep up to date with what going on with OpenStack
User Groups: OpenStack user groups around the world
World map: Contains markers indicating where OpenStack contributors live and OpenStack deployments, around the world.
Flickr Feed: Pictures from OpenStack events

Blog

http://www.openstack.org/blog/
Stay up on OpenStack news with the blog. The Community Newsletter is posted every Friday by the community manager. The blog is also available for user content.

Wiki

http://wiki.openstack.org/A good place to find answers and detailed instructions, see the Wiki Layout section below for a more detailed description

Documentation

http://docs.openstack.org/

OpenStack Manuals: Pick the release you want the manual for. Manuals are available for Compute, the Imaging Service as part of compute, and Object Storage.
Related Resources: Links to online documentation for all OpenStack core projects.

OpenStack Wiki Layout

Starting Page

http://wiki.openstack.org/StartingPage

Getting Started: Links to the page with instructions about installing Nova, Swift and Glance, searching the wiki, how to use Launchpad answers and Launchpad bugs
How to Contribute: Links to instructions on joining the OpenStack teams in Launchpad and how to contribute after joining (most of this information is also contained in this document)
Documentation: Links to the wiki page for all software documentation including OpenStack manuals and project documentation

Contact: Links to contact information for the Chief Architect, the Technical Writer, the Webmaster, and the Community Manager
Next Team Meeting: A link to the next team meeting on IRC and the agenda

***OpenStack core projects*:** Links to information related to getting started with OpenStack and each of the three core projects
Contributor's corner: Links to basic information about contributing to OpenStack code, the release cycle, the job listing page, and development release status
***People and Community*:** Links to the core community values of OpenStack, mailing lists, and IRC information, User groups, blogs, the weekly newsletter and the OpenStack forum

Recent Changes

http://wiki.openstack.org/RecentChanges
A list of the most recent changes, updates, and authors of the wiki

Find Page

http://wiki.openstack.org/FindPage
A faceted search for the wiki

Help Contents

http://wiki.openstack.org/HelpContents

Getting Started: Links to the page with instructions about installing Nova, Swift and Glance, searching the wiki, how to use Launchpad answers and Launchpad bugs
How To: Links to the How to Contribute page, Install Instructions, Getting the Code, and Learning bzr and Launchpad