

# Getting started with contributing to open source

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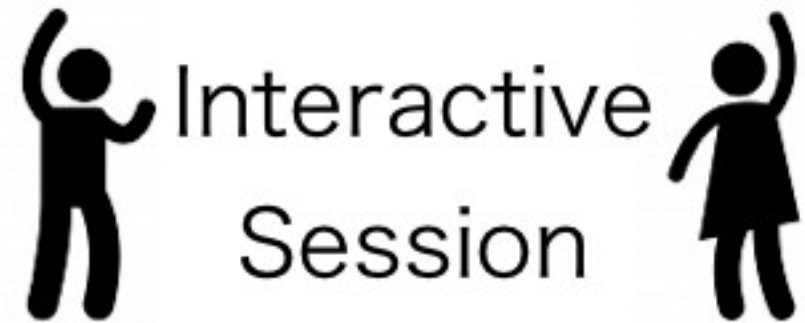
# Who Am I?

- Linux kernel engineer at **Oracle**
- Worked as a Linux kernel intern under the Outreachy program
- Linux foundation training scholarship winner
- Involved with open source internship programs [RGSoC, Learn IT, Girl, GCI, GSoC]
- In short, an open source enthusiast who is getting paid for working on open source software

# Agenda

- What is open source?
- Why contribute to open source?
- Ways to getting involved in open source
- How to get involved in open source
- Git
- Open source internship programs
- Questions

# What I am not going to do...



*That's a promise!*

# What is Open Source?

- Open source is a methodology or philosophy that promotes free redistribution and access to a product's design or ideas and implementation details
  - Open as in free
  - Open as in access
  - Open as in any place and available for everyone
  - Dozens of License types
  - Modifiable and usable for any purpose
  - Often community developed



**open** source

# Why contribute to open source?

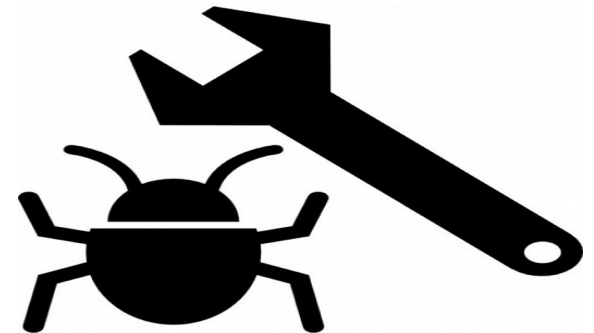
- Give back to the community
- People and collaboration
- Education and learning
- Interesting and challenging
- Fun
- Your portfolio = your CV



# Ways to getting involved in Open Source

## ■ Bugs

- Finding bugs
- Reporting bugs
- Fixing bugs



# Ways to getting involved in Open Source

- Bugs
- Testing
  - Using tools
  - Testing of new features
  - Performance testing





# Ways to getting involved in Open Source

- Bugs
- Testing
- Documentation
  - ➔ Contributing to the existing docs
  - ➔ Writing blogs
  - ➔ Adding new docs



**WRITE THE  
DOCS**

# Ways to getting involved in Open Source

- Bugs
- Testing
- Documentation
- Translation and localization



# Ways to get involved in Open Source

- Bugs
- Testing
- Documentation
- Translation and localization
- Community involvement  
and helping others



# How to get involved in open source

- Choose a project

## Skills

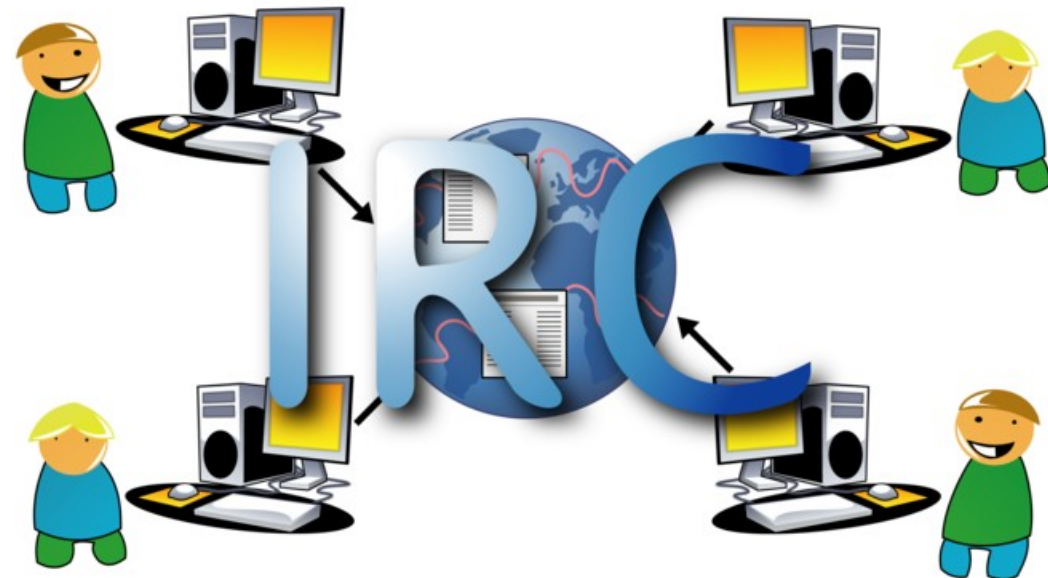


## Projects



# How to get involved in open source

- Choose a project
- Mailing list and IRC



# How to get involved in open source

- Choose a project
- Subscribe to Mailing lists and connect over IRC
- Setting up an environment
  - Installing the Linux distro [Ubuntu, Fedora, Debian]
  - Getting the source code
  - Version control systems [ex. Git]
  - Setting up necessary tools

# How to get involved in open source

- Choose a project
- Subscribe to Mailing lists and connect over IRC
- Setting up an environment
- Read documentation and/or tutorials
  - “Getting started with ...” docs/wikis
    - ex. <https://wiki.gnome.org/NewcomersTutorial>
    - [http://www.mediawiki.org/wiki/Gerrit/Getting\\_started](http://www.mediawiki.org/wiki/Gerrit/Getting_started)
    - [https://wiki.openstack.org/wiki/How\\_To\\_Contribute](https://wiki.openstack.org/wiki/How_To_Contribute)
    - <http://kernelnewbies.org/Outreachyfirstpatch>
  - Reading blog of developers and previous participants of open source internship programs
  - Reading mailing list archives and IRC logs

# How to get involved in open source

- Choose a project
- Subscribe to Mailing lists and connect over IRC
- Setting up an environment
- Read documentation and/or tutorials
- Bug trackers
  - Software application that keeps track of reported software bugs in software development projects
  - Common bug trackers : Bugzilla, Gerrit



# How to get involved in open source

- Choose a project
- Subscribe to Mailing lists and connect over IRC
- Setting up an environment
- Read documentation and/or tutorials
- Bug trackers
- Understanding community best practices
  - Project hosting site [ex. Github, GitLab]
  - Mailing lists and IRC etiquetts

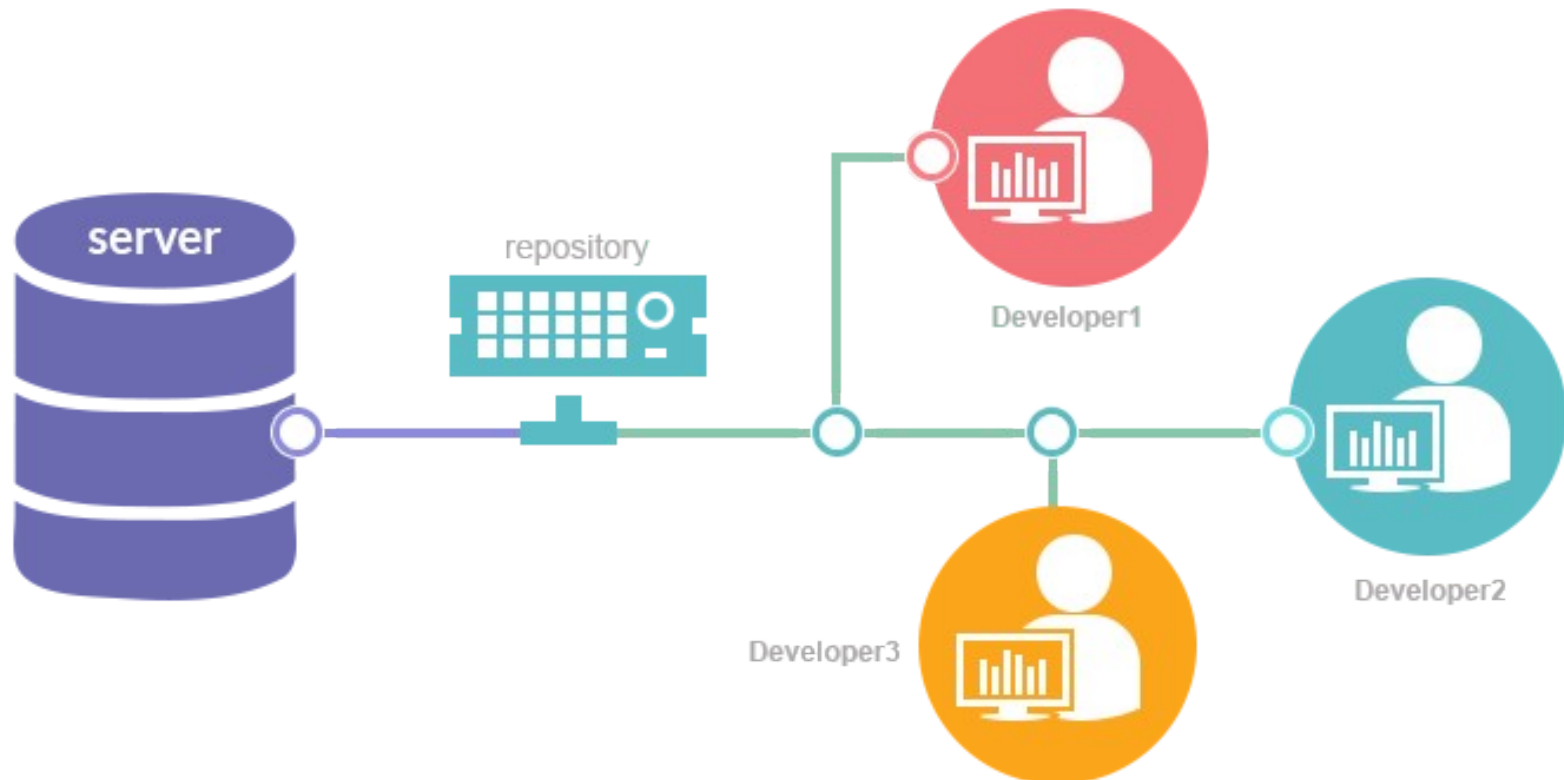
# How to get involved in open source

- Choose a project
- Subscribe to Mailing lists and connect over IRC
- Setting up an environment
- Read documentation and/or tutorials
- Bug trackers
- Understanding community best practices
- Coding -> Testing -> Discussing -> Repeat

# Git



- Version control system
  - A system that records changes to a file or set of files over time so that you can recall specific versions later



# Git



- Version control system
- Developed by Linus Torvalds in 2005
  - Speed
  - Simple design
  - Fully distributed
  - Large projectr support

# Git



- Version control system
- Developed by Linus Torvalds in 2005
- Installation
  - Debian based: “sudo apt-get install git-all”
  - Yum based: “dnf install git-all” or  
“sudo yum install git-all”

# Git



- Version control system
- Developed by Linus Torvalds in 2005
- Installation
- Setting up .gitconfig
  - `git config --global user.name "John Doe"`
  - `git config --global user.email johndoe@example.com`

# Git



- Version control system
- Developed by Linus Torvalds in 2005
- Installation
- Setting up .gitconfig
- Getting the source code
  - Git clone <URL to git repository>

# Git



- Version control system
- Developed by Linus Torvalds in 2005
- Installation
- Setting up .gitconfig
- Getting the source code
- Some common terminology and commands
  - Initializing your project – `git init`
  - What's up? - `git status`
  - What is relevant – `git add`, `git commit -s -v`



# Git patch

**fcoe: Convert use of \_\_constant\_htons to htons**

**In little endian cases, the macro htons unfolds to \_\_swab16 which provides special case for constants. In big endian cases, \_\_constant\_htons and htons expand directly to the same expression. So, replace \_\_constant\_htons with htons with the goal of getting rid of the definition of \_\_constant\_htons completely.**

**Signed-off-by: Vaishali Thakkar <vthakkar1994@gmail.com >**

**Signed-off-by: Mark Brown <broonie@kernel.org>**

**diff --git a/drivers/scsi/fcoe/fcoe.c b/drivers/scsi/fcoe/fcoe.c**

**index ec193a8..d3eb80c 100644**

**--- a/drivers/scsi/fcoe/fcoe.c**

**+++ b/drivers/scsi/fcoe/fcoe.c**

**@@ -364,7 +364,7 @@ static int fcoe\_interface\_setup(struct fcoe\_interface \*fcoe,**

**\* on the ethertype for the given device**

**\*/**

**fcoe->fcoe\_packet\_type.func = fcoe\_rcv;**

**- fcoe->fcoe\_packet\_type.type = \_\_constant\_htons(ETH\_P\_FCOE);**

**+ fcoe->fcoe\_packet\_type.type = htons(ETH\_P\_FCOE);**

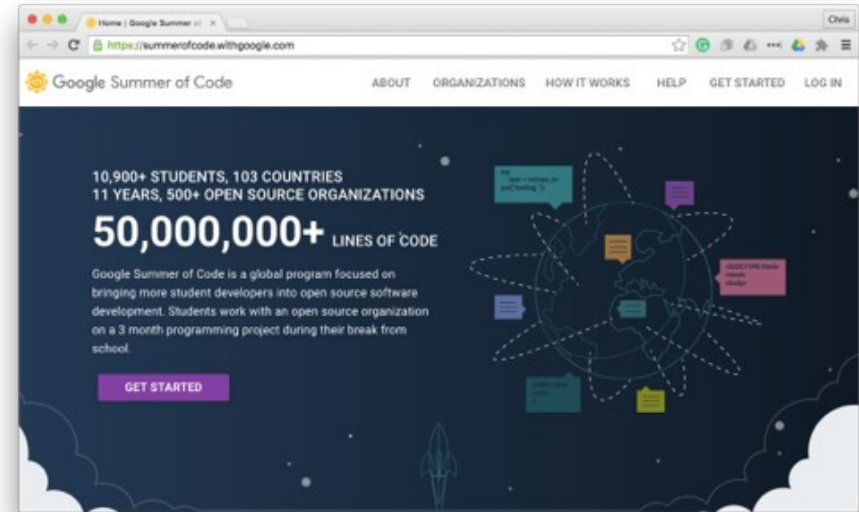
# Github based terminologies

- Repository
- Pull request
- Fork
- Issue
- Commit
- Star

# Open source internship programs

## GOOGLE SUMMER OF CODE

- 100+ participating organizations
- Some big organizations includes Mozilla, Wikipedia, Linux Foundation, GNOME, KDE
- Eligibility: 18+ student
- 5500\$ stipend / 3 months, Goodies
- Takes place once a year, summer only
- Program site : <https://summerofcode.withgoogle.com/>



# Open source internship programs

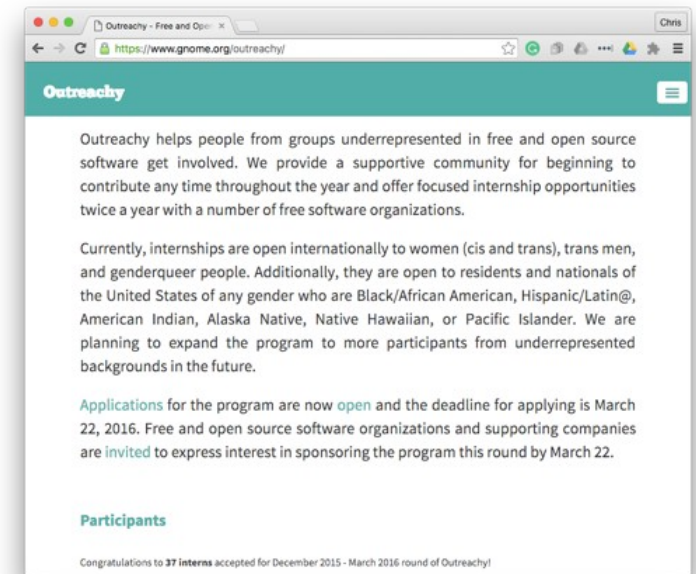
## STATICS OF GOOGLE SUMMER OF CODE

- 1051 total accepted students from 73 countries in 2015
- India ranked first with the highest number of participants [335] in 2015
- 1307 total accepted students in 2014
- India ranked first with highest number of participants [401]
- IIIT-H was ranked first with highest number of selected students in 2015 [69] and in 2014 [62]

# Open source internship programs

## OUTREACHY

- 15+ participating organizations including Mozilla, Wikipedia, Linux Kernel, GNOME, Openstack
- Eligibility: People from underrepresented group in technology
- 5500\$ stipend / 3 months, extra 500\$ as a travel reimbursement for conference
- Takes place twice a year, summer and winter
- Program site : <https://www.gnome.org/outreachy/>



# Open source internship programs

## STATICS OF OUTREACHY

- More than 280 participants participated till now
- Around 45 had full session talks at FOSS conferences
- Around 37 found full employment or contract positions with the sponsoring organization
- Around 30 continued to participate in GsoC either as a student or mentor
- Around 70 are working in the IT industry [half of them in the open source]
- Interviews of many interns published in magazines like IT World, opensource.com, linux.com, SC magazine etc

# Open source internship programs

## RAILS GIRLS SUMMER OF CODE

- 40+ participating organizations including Apache, GitLab, Rails etc
- Aim: Getting more women in the open source
- Stipend varies based on the location, and it mandatory to apply as a team
- Takes place once a year, in a summer
- Program site : <http://railsgirlssummerofcode.org/>



# Open source internship programs

## STATICS OF RGSoC

- Around 35 sponsored teams and 20 volunteer teams participated from 2013 to 2015
- 90% students are now working in tech, 8% students founded their startup, 55% students are still working on OSS
- Teams participated from more than 23 countries
- Around 86 sponsors sponsored teams [from 2013 to 2015]



# Open source internship programs

## SOME MORE PROGRAMS

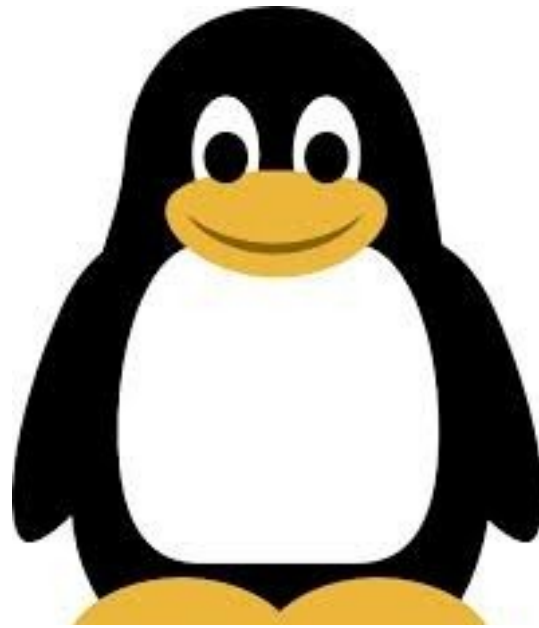
- Season of KDE
- Mozilla winter of security
- OWASP SoC
- Open Daylight internship program
- TOR Summer of Privacy

# QUESTIONS?

**Contact:** <http://vthakkar1994.github.io/>

@kernel\_girl

# WELCOME TO THE OPEN SOURCE COMMUNITY



*Thank You*