# Open Source Demystified!

*Exploring the real potential...*

Why do you like to study?
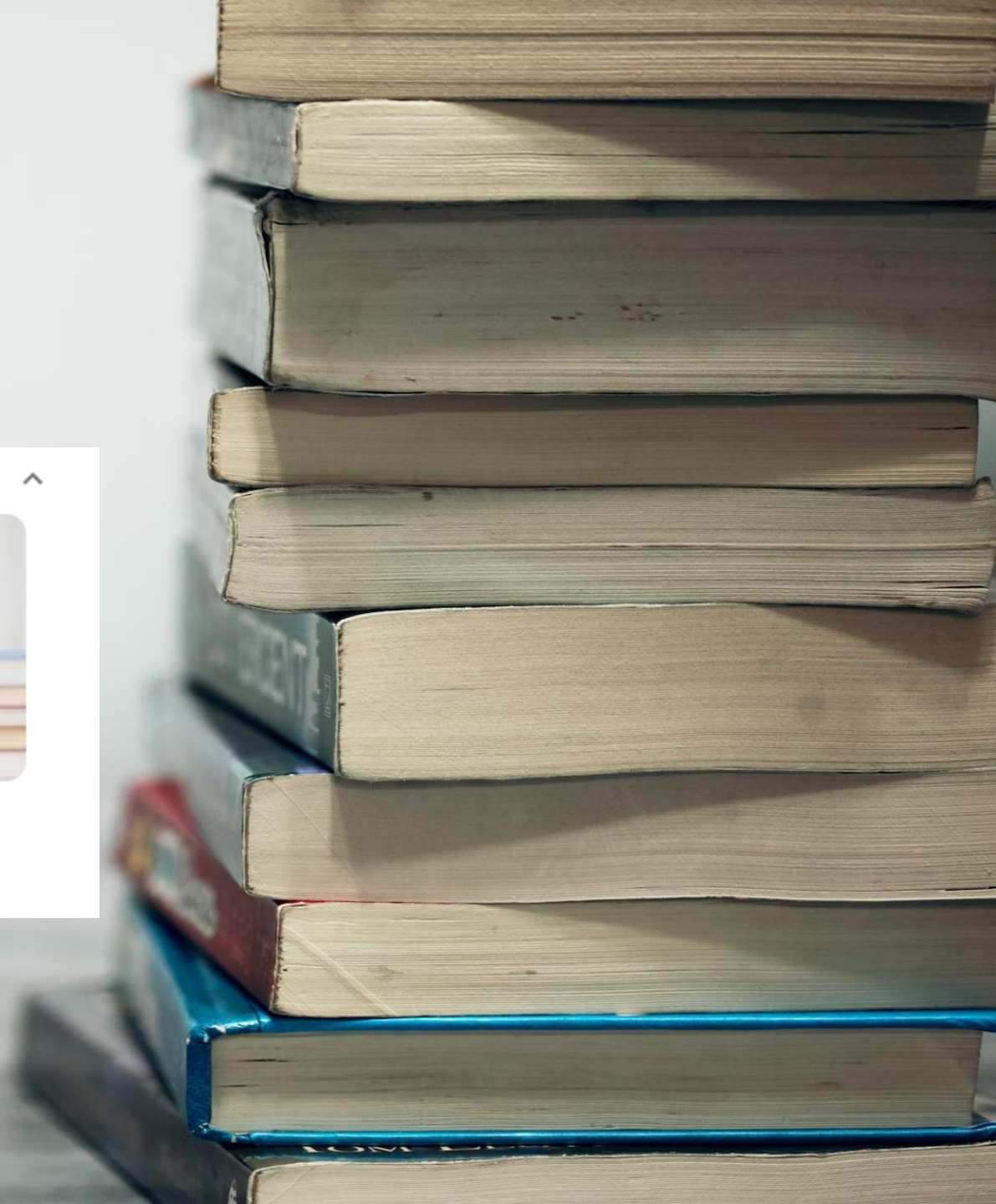
1) **Studying Gives You Purpose**

Finding your purpose will give you hope and the motivation to endure the anxiety and stress. It will also help motivate you to study for those boring subjects or work through those projects you don't enjoy. 05-Feb-2020

https://brightsparkz.co.za › 5-reasons-to-love-studying ▾

5 Reasons to Love Studying - BrightSparkz Tutors

open Source

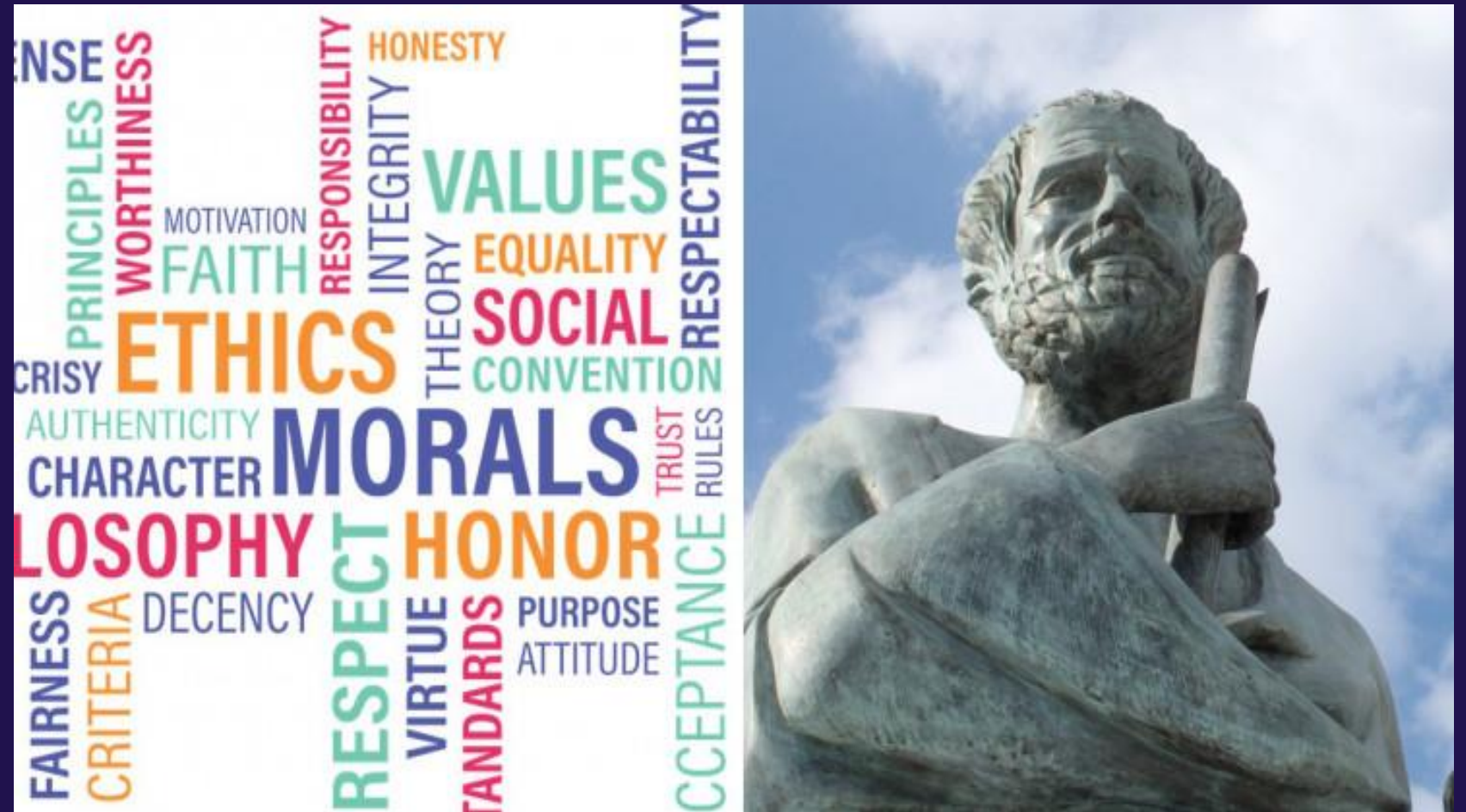Chit-Chat

# Movie Time!



THE RISE OF OPEN-SOURCE SOFTWARE

# Open Source Community ~~ Society

- Integrity
- Openness
- Sharing
- Collaboration
- Communication

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# How do we do software development ?
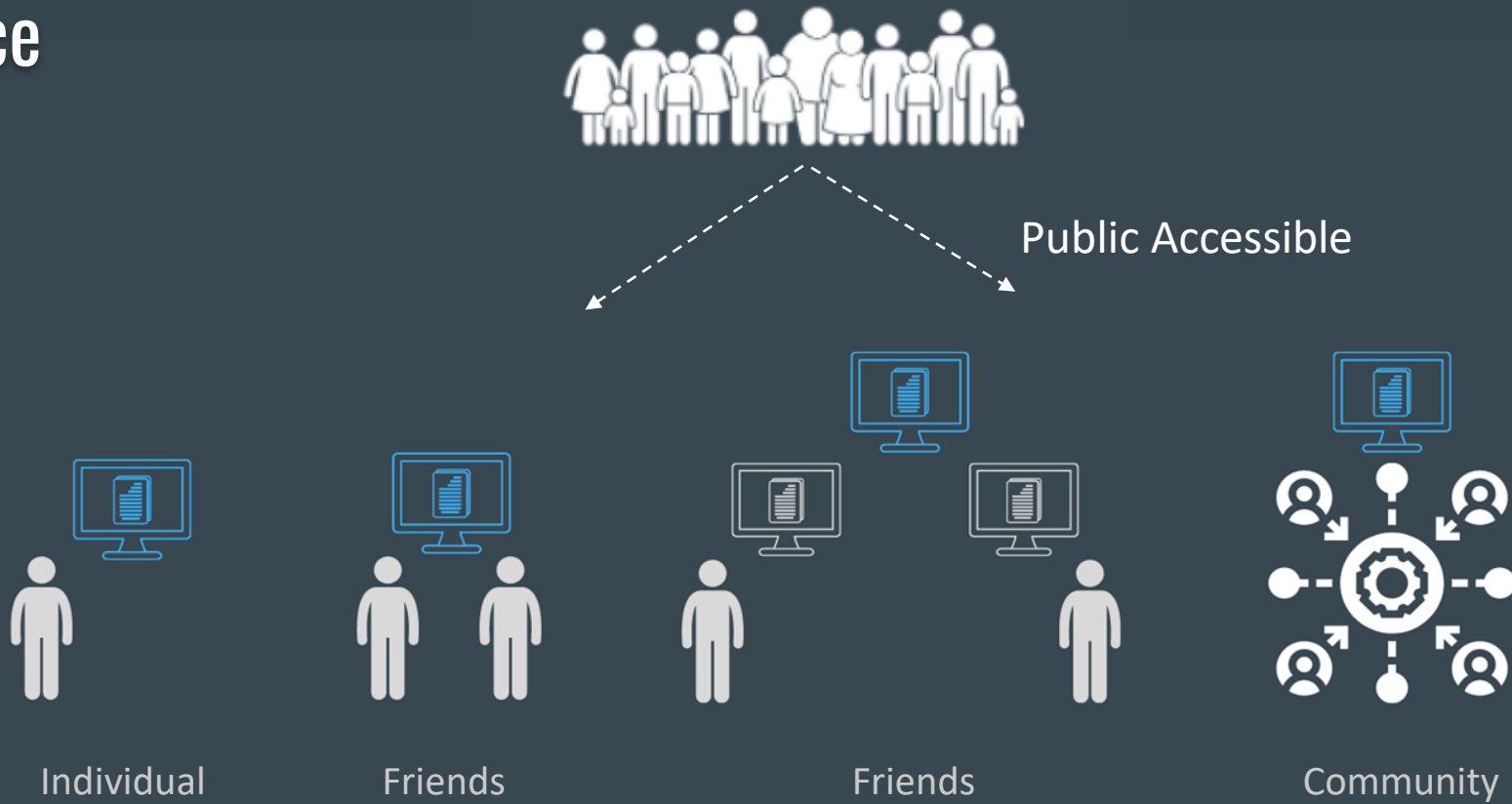
Closed Source

Individual

Friends

Friends

Group of People

# Open Source

Public Accessible

Individual         Friends                    Friends                    Community

## Source Code is Open

Open Source ·············▸ **Source Open** ··········· Need **NOT** be Free!

Free Software ·············▸ **Software Freedom** ··········· Run, Edit, Contribute & Share

Need **NOT** be Free!

Freeware ·············▸ **Free of Cost** ··········· Free to use (conditions apply!)

Mostly NOT Open Source!

# Open Source : Essentials

Common Place for Source Code

Examples : git, github, gitee, gitlab, bitbucket, …

Developers

Using different programming languages
(go, c, c++, java, scripts…)

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# Open Source : Typical Components

Governance

Engineering

Ecosystem

- Operation Structure
- Strategy & Budget
- Roadmap

- Design and Development
- Project Management
- Source Version Control

- Developers
- Vendors
- Users

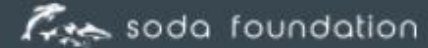..for a project to run smoothly and to be sustainable!

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# Project, Foundation and Sub Foundation



Projects

Foundations
(hosts sub foundations and projects)

Sub-Foundations
(hosts projects)

Why?

# GitHub

As of June 2022, GitHub reported having over 83 million developers and more than 200 million repositories, including at least 28 million public repositories. It is the largest source code in the world.

# Exponential Adoption of Open Source...

**77%** of organizations more reliant on OSS

than they were 12 months ago

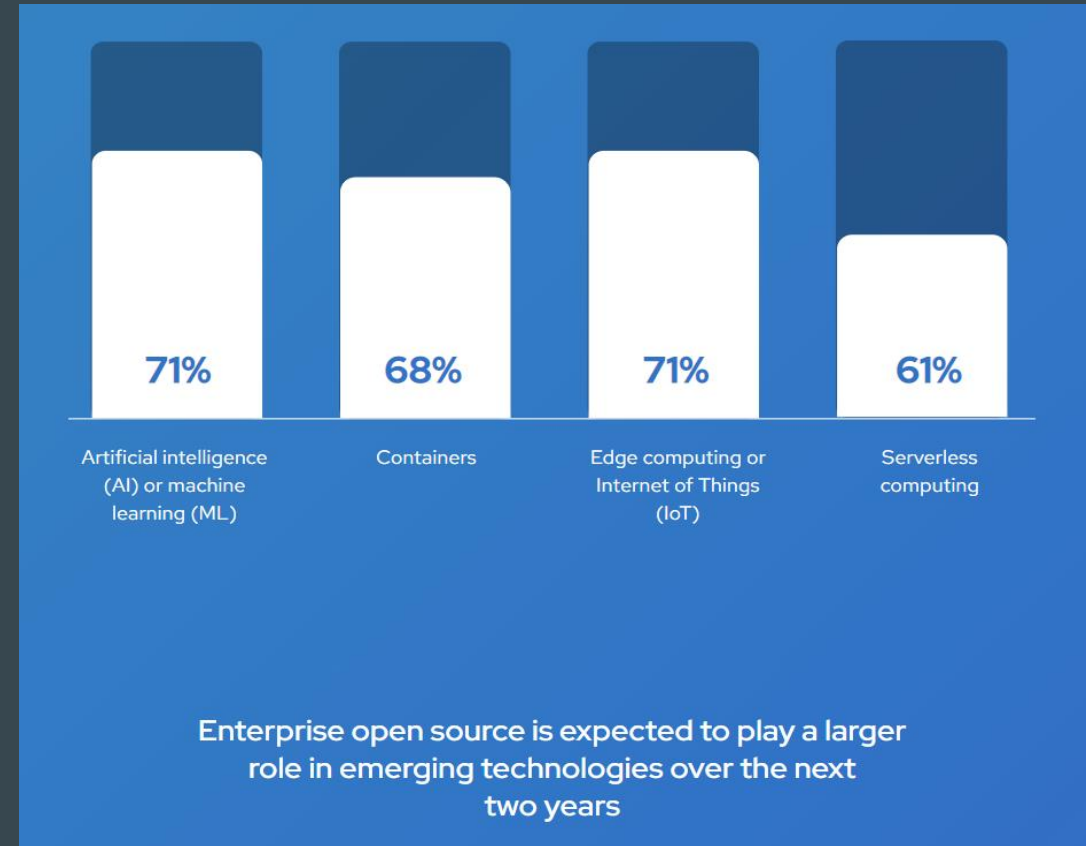**36%** reporting they had increased

their use of open source "significantly".

IT leaders TRUST the security of open source

89%  see enterprise open source as more secure or as secure as proprietary software

| Artificial intelligence (AI) or machine learning (ML) | Containers | Edge computing or Internet of Things (IoT) | Serverless computing |
|---|---|---|---|
| 71% | 68% | 71% | 61% |

Enterprise open source is expected to play a larger role in emerging technologies over the next two years

# Open Source

Public Accessible

Individual          Friends                    Friends                  Community
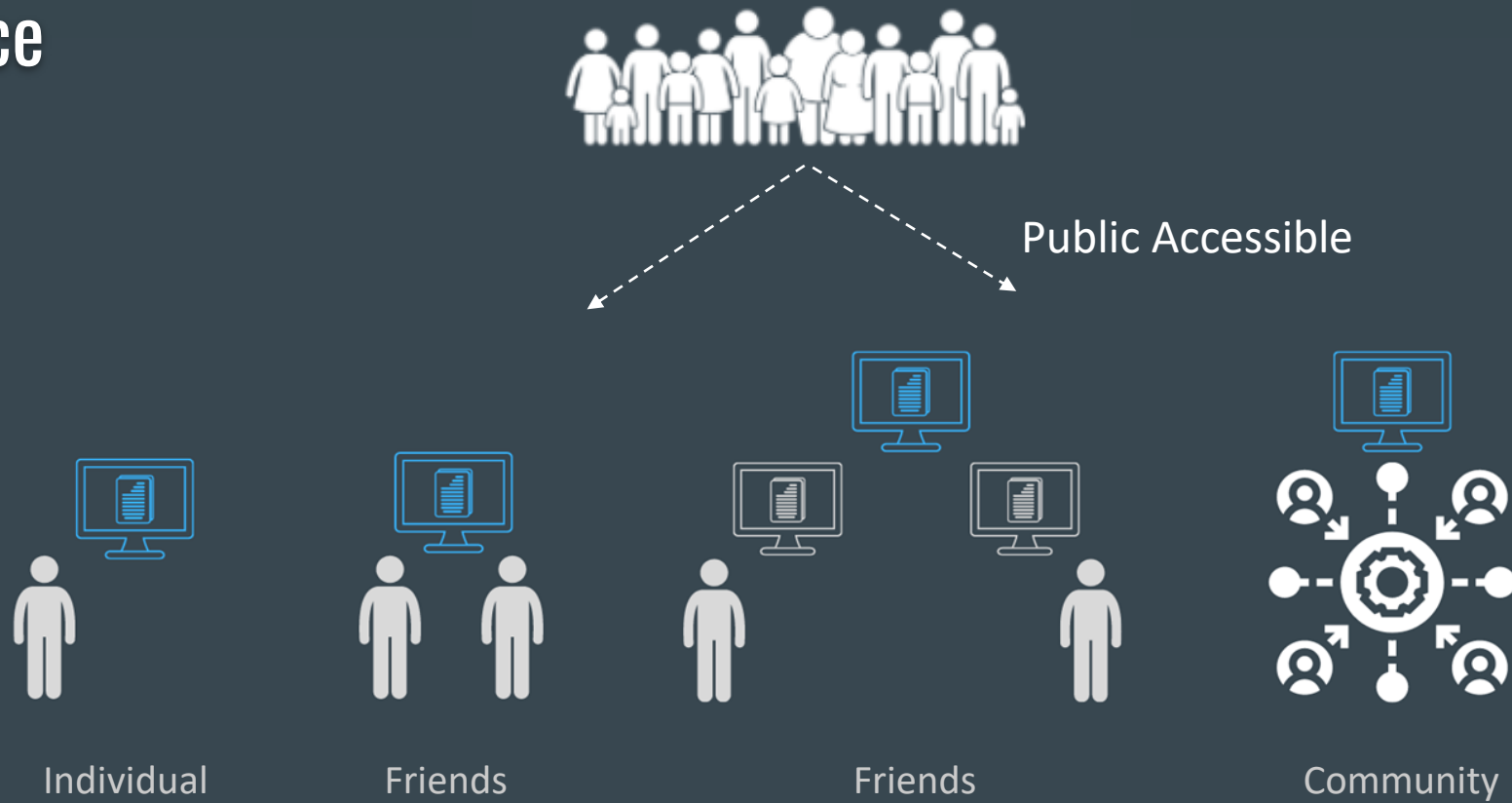
**Experience Power of Collaboration and Open Culture!**

# Collaborative & Open Culture

Collaborative Goals Setting
Collaborative Development
Collaborative Research
Collaborative Learning

# Practices to ensure effective collaboration!

### Open Communication
- What over Who (Community Calls, Slack, github discussions …)

### Value Development
- Why is it needed? Can't reuse? No to 'fancy pieces'! (github issue/PR handling)

### Efficient Tools
- What works for us/this? Add what we use! Can we reduce 'work' (mindmap, github, gitops)

### Right Process
- fit for changing community? Transparent? Inclusive? Needed?  (github projects, teams, PR review…)

### Self Learning
- Projects and People Self learn (project landscapes, meetups, events, outward view, technology..)

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# Open X !

OPEN SOURCE

OPEN RESEARCH

OPEN COLLABORATION

**OPEN ENTERPRISE**

**Open Source**

accelerate innovation and development with open source projects and ecosystems

**Open Research**

expand insights and explore ideas with open research and case studies

**Open Collaboration**

engage the community and build partnerships on a neutral platform

# Why should I ?

**Coding Skills**

**'Real' Projects**

**Technology**

**Communication**

**Confidence**

**Maturity**

**Visibility Unlimited!**

**Global Networking**

**Employability**

**Recognition**

**Leadership**

**Research & Innovation**

**Transparent**

**Democratic**

**Value for All**

**Sustainable**

How?

# Open Source Ecosystem

## Governance

Operation Structure
Strategy & Budget
Roadmap

*Hosts and Manages the open source projects*

### Foundations
Host Multiple Projects and Sub Foundations | Build Governance & Operations

### Sub Foundations
Host Multiple Projects | Build Governance & Operations

### Independent Project Teams
Host and Manages individual projects

## Engineering

Design and Development
Project Management
Source Version Control

*Technology and Open Source Software Development*

### Developers
Design and Development of Open source software

### Contributors
Contribute to non technical areas of the project

### Experts
Architecture and Technology Strategy Development

## Ecosystem

Collaborating Community
Brand, Awareness, Deployments
Requirements and Feedbacks

*Collaboration, Productization and Deployment*

### Users
Use the products and solutions | Gives requirements and feedbacks | Support projects /foundations

### Vendors
Build products and solutions | support the projects / foundations

### Supporters
Partnering companies and individuals supporting the project community ecosystem |

# How can I?

- Can Code?
- Can Test?
- Can Document?
- Can Software Design?
- Can do creative designs?
- Can evangelize?
- Can X..!

Want to **grow**

Ready to **spare some time**

Ready to spare some time **consistently**

# Open source Demystified Level 1: The syllabus

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# COURSECODE: OPENSOURCE DEMYSTIFIED – Level 1

**Credits: 3**                                              **Hours: 45**

**Course Objective:**

- To provide clear understanding of open source, it's potential on individual career and personal growth along with real project experience initiation. This creates a foundation for the students to explore the huge opportunities through open-source projects globally.

**Course Outcomes:**
After successful completion of the course, the student will be able to:
- Understand the open source ecosystem and projects
- Analyse and understand open source project technologies
- Join and work with open source communities
- Contribute to open source projects in different technologies technically and non technically
- Build more expertise (technical and non technical)
- Explore more opportunities to grow visibility and credibility in the industry through open source

## Open Source Demystified: Introduction

Basic concept of Open Source; Understanding Key terms: Open Source, Free software; Myths and Facts: Burst all common myths, Open Source Industry Insight: Open Source Projects, Foundations, Landscape, directions and trends, Case Study of a Foundation, Sub Foundation and a project.

**1**

## Open Source Operation & Potential Insight

Typical Components: Governance, Engineering, Ecosystem; Case Study & Deeper understanding: Create a layout of given open source project, Illustrate the Operation. Open Source Potential Insight: Why Open Source, Technology Innovation and Research, Open source technology map, Power for enabling and empowerment: Various Global Channels, Illustrative discussions and case studies

**2**

## How to join and contribute

Getting to know about the project, Entry Channels, How to contribute, Case Study, Working with one open source project: Join the community channels, Attend community meeting and experience sharing, Tools and Setup, Contribution and understand various aspects of contribution: quality, testing, documentation, Dos and don'ts, community practices; Best Practices Sharing, Lifecycle of open source contribution. Sustaining and grow as a contributor: Key attributes & Pitfalls

**3**

## Building Career and Competency

Building Career and Competency: Career, Skills, Personal, Industry Credibility, Global Influence and Impact, Case Studies and Real examples: Contributor Growth and global influence; Self-assessment and individual skill plan.

**4**

## Open Source as a Culture

Philosophical view of Open Source, Cultural aspects: Integrity, Openness, Sharing, Collaboration, Communication; Imbibing value, Case Study and Sample project creation along with role play for deeper understanding.

**5**

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# The Lab

**Credits: 2**                                                                          **Hours: 60**

**Course Objective:**
- To provide a quality and systematic approach to contribute and learn the design, development, operation and maintenance of open source software systems.

**Course Outcomes:**
After successful completion of the course, the student will be able to:
- Understand the community operations and governance of open source projects
- Do hands-on contribution to open source project (In design, development, testing and documentation)
- Understand how to learn and grow their industry visibility in open source industry

**Guidelines:**
- Minimum 2 Months of Engagement with any open source project/ community (Example : SODA Foundation Projects or any such open source projects)
- Typical Languages: Go Lang, Python, Java Script, Ansible/Other scripting, Or any other
- Typical Technologies: Data/Storage, AI/ML, Cloud, Cloud Native, Edge or any other
- Weekly 4 Hours (Average) / Depends on the student
- **Project Scope:**
  - Join and contribute to any of the projects under SODA Foundation
  - Minimum 2 accepted PRs/Issues or combinations. The PRs should have at least one commit from the contributor:
    - Documentation
    - Testing
    - Feature Development
  - Minimum 5 community meeting or any technical meeting attended and sharing
- **Deliverables:**
  - Project Report comprised of (not limited to):
    - Project Layout: Operation, Technology, Features and Use cases
    - Project Architecture
    - How to contribute to this project
    - Contribution Summary
    - Challenges and Learning
  - Seminar / Debate Sessions

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*Building open data framework for all through open source ecosystem and technology projects for data management!*
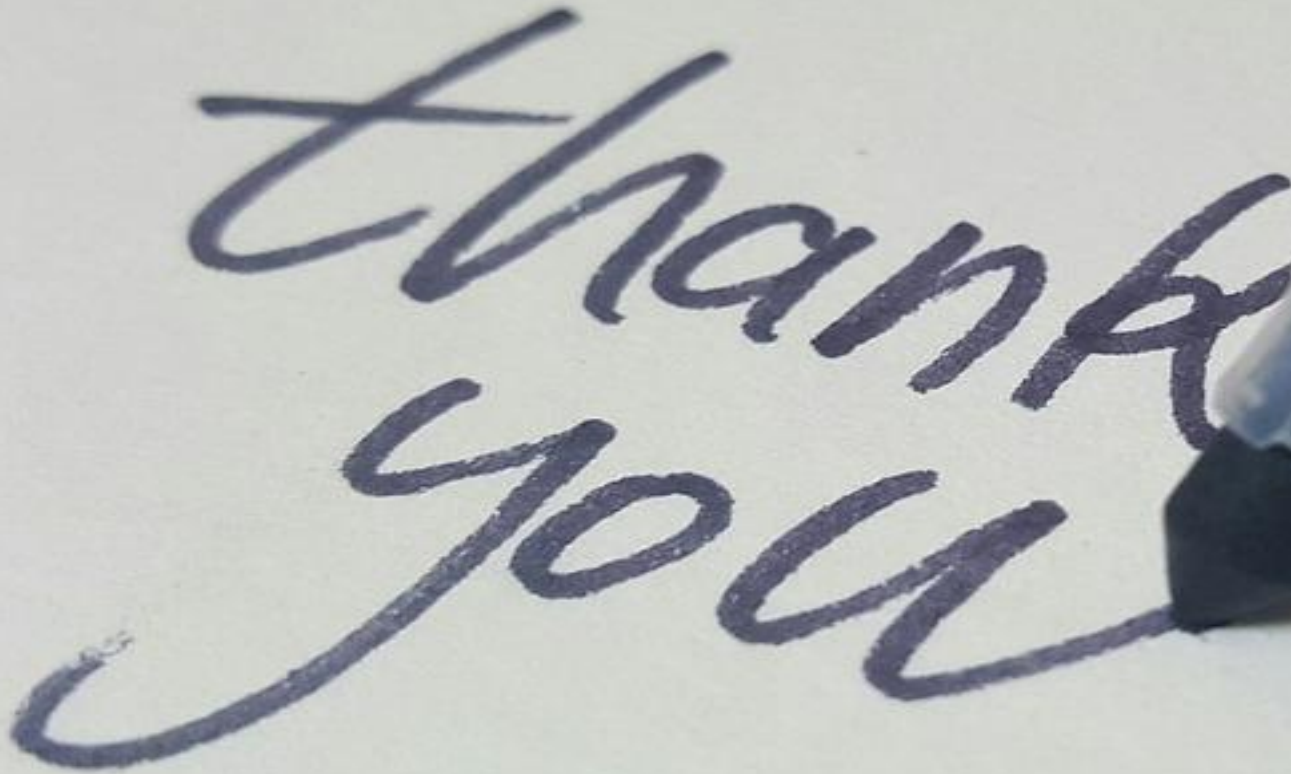
# Where do I start?

## Just Join



https://sodafoundation.io/slack

## ..and say I want to contribute!

*We welcome developers of all levels of skills and experience to join to build future technology solutions for data & storage!*

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www.sodafoundation.io

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