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Open Source Software Developer Report

How Developers Benefit from Professional Events

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Open Source Software Developer Report 2024

96% of developers who responded to the survey are **involved with open source software**.



88% agree that open source allows organizations to **innovate faster**.





Almost all respondents (99%) believe that **learning new skills** is an important strategy for career growth.



96% of respondents reported that **staying up to date with fast-paced changes to technologies** is important.

Meetups and SIGs are considered important for career growth by 63% of respondents.



The #1 objective at Open Source Summits and conferences is **connecting with other IT developers**.



82% of respondents believe **Open Source Summits and conferences** are important for career development. More than half of respondents (52%) say that the importance of Open Source Summits and conferences has **increased in the last 3 years**.





The most significant value from attending professional events is **finding inspiration and motivation**.



59% of respondents perceive value in keeping up with open source ecosystems by **attending professional events**. The most-attended open source events are KubeCon/ CloudNativeCon (40%), Open Source Summits (27%), and PyCon (15%).



53% of respondents **see GenAl as important** to their current role and career.





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Foreword

A garden may produce fruits and flowers, but it is the gardeners who cultivate, nurture, and sustain it. Just as the plants depend on the gardeners for care and attention, an open source project relies on people to grow, evolve, and flourish. The human element is what makes open source dynamic, resilient, and transformative. Open source brings out the best in human collaboration: trust, mentorship, global connectivity, shared ownership, and a passion for creating something bigger than any one individual or organization. The true strength of open source lies not in the software itself, but in the vibrant, diverse communities that sustain and nurture it.

A great place to meet humans behind open source is the open source developer events. I have attended hundreds of such events over the last couple of decades. These events have allowed me to connect with thousands of passionate users and contributors from all over the world. Each gathering has reinforced the idea that open source is not just about the technology we build but about the relationships we form. The formal part of the event including keynotes, technical sessions, and hands-on labs provide a guided way of knowledge transfer. A serendipitous exchange of ideas in a hallway track is equally important to learn about the real-world challenges people are facing, innovative solutions that may not yet be documented, and new trends emerging within the community. These casual conversations often lead to new collaborations, fresh perspectives, and deeper insights into the nuances of open source development. It is in these unplanned, organic moments that some of the most meaningful connections and breakthrough ideas are born.

These events have played a significant role in defining my personal journey – both on a personal and a professional front. I am really excited about this research by the Linux Foundation on how developers benefit from professional events. I hope you find this useful and impactful as well.

Arun Gupta, Vice President and General Manager, Open Ecosystem, Intel



Introduction

The proliferation of open source software (OSS), which has become a cornerstone of innovation, collaboration, and community-driven progress, has significantly shaped the landscape of software development. As the role of open source continues to expand, so too do the opportunities and challenges that developers face as they contribute to and rely on OSS. In this rapidly evolving field, career advancement is increasingly tied to a developer's ability to stay current with emerging technologies, enhance their skill sets, and navigate the complex ecosystem of open source communities.

This research report aims to explore the specific needs and strategies that open source developers employ to advance their careers. By examining the resources, activities, and environments that developers value most, this report seeks to provide a comprehensive understanding of the factors that contribute to professional growth in the open source domain. The insights gathered from this study will not only illuminate the current state of career development among open source developers but also offer guidance for organizations, educators, and community leaders on how to better support these professionals in their career trajectories.

Based on the growing demand for skilled open source developers and the urgency to understand their unique career advancement needs, Linux Foundation Research collected empirical data from the 2024 Open Source Developer Survey about the key drivers of career success for open source developers, offering valuable perspectives on how to cultivate and sustain a thriving career in this dynamic field. The target audience included respondents who met the following criteria:

- Must be in an IT role involved with software development, either being a developer or managing a software development team
- Must be employed (or self-employed) full time or part time, a student enrolled full time or part time, unemployed and seeking their first IT role, or unemployed and looking for work after previously being employed in IT

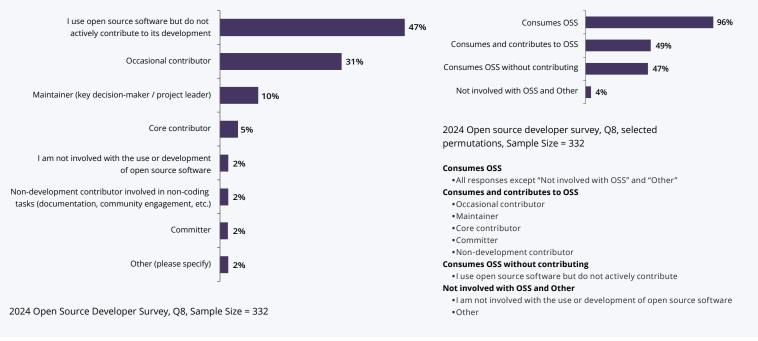
Survey development by Linux Foundation Research occurred in 2024 Q1, and the survey took place in 2024 Q2, yielding 323 completed surveys. For more information about the survey methodology and survey demographics, see the About the survey section toward the end of this report.



Involvement in open source

Linux Foundation subscribers, members, and partners made up the developer sample for this project. This community includes well over 1,600 corporate members, including many of the leading IT vendors and service providers and hundreds of end-user organizations from virtually every industry. Becoming a Linux Foundation subscriber is easy and free, and millions of developers have done so. Therefore, the demographics of the Linux Foundation community are a reasonable representation of the overall developer community. The left-hand chart in **FIGURE 1** shows the distribution of relationships that developers in our sample have with OSS. Aggregating these categories results in the chart on the right-hand side of **FIGURE 1**. This chart shows that 96% of the sample consume OSS, 49% consume and contribute to OSS, 47% consume OSS without contributing, and just 4% are not involved with OSS. This demonstrates the pervasive use of OSS and the significant number of developers who contribute to OSS.

FIGURE 1 OPEN SOURCE CONSUMPTION IS PERVASIVE, AND CONTRIBUTION IS IMPRESSIVE



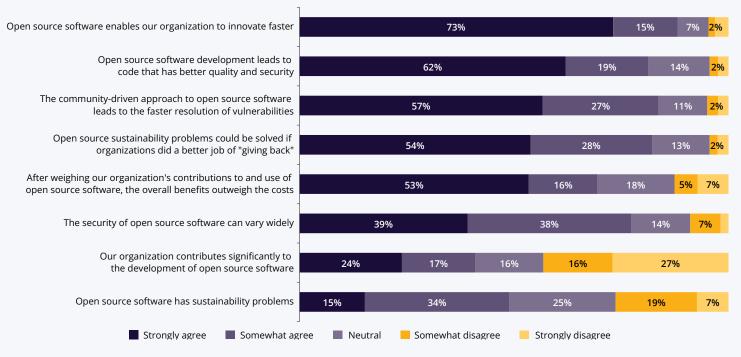
Which option best describes your relationship with open source software? (select one)



The open source value proposition

Investigating the perceived benefits of OSS from the perspective of its community of users and contributors is crucial for understanding the dynamics of the OSS ecosystem. As with past surveys, FIGURE 2 shows that developers value OSS highly, with 88% agreeing (strongly or somewhat) that their organization innovates faster with OSS, 81% acknowledging its role in improving code quality and security, and 84% recognizing the agility of a community-driven approach on vulnerability resolution. Selected factors driving this include collaboration by a diverse group of developers, transparency, cost-effectiveness (which eliminates barriers to adoption and contribution), community contributions, and the ability to customize code to meet specific needs.

FIGURE 2 OPEN SOURCE DRIVES INNOVATION, CODE QUALITY, AND IMPROVED SECURITY



2024 Open Source Developer Survey, Q10, Sample Size = 332, DKNS responses excluded from the analysis



Open source developers on what is most important to advancing their career and performing their role

There are multiple factors that are critical to advancing a career. Moreover, those factors are nuanced and vary for different people according to their unique needs and definitions of success. In FIGURE 3, developers emphasize the dual importance of intradisciplinary and interdisciplinary needs as an effective approach to career advancement.

The vast majority of developers view intradisciplinary skills, which involve deepening expertise within a specific area, as either extremely important, very important, or important. The high percentages of respondents who considered it either extremely important, very important, or important to learn new skills (99%), improve existing skills (97%), and demonstrate excellence in their current roles (95%) reflect this. These findings suggest that developers recognize the need to continually refine and expand their technical expertise, which is often best addressed through frequent interactions with managers, team members, and mentors supplemented by third-party training and certification. These solutions are usually baked into the organizational structure and culture of the organization and easy to address.

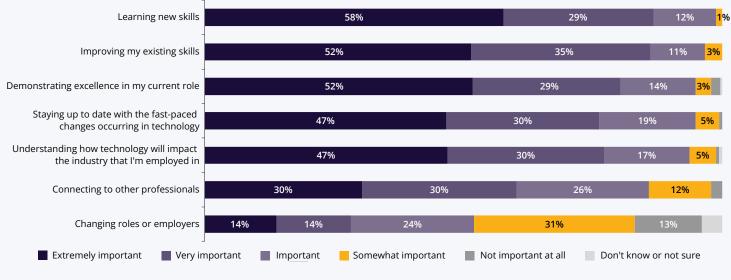
However, results show developers also have interdisciplinary needs—those that span across different fields and areas of knowledge and often require stepping outside organizational boundaries. Respondents valued staying current with rapidly changing technologies (96%) and understanding the broader impact of these technologies on the industry (94%) highly. These interdisciplinary skills enable developers to adapt to new trends, anticipate future developments, and make more informed decisions that extend beyond their immediate technical domain. The findings suggest that developers recognize the need to continually refine and expand their technical expertise, which is often best addressed through frequent interactions with managers, team members, and mentors supplemented by thirdparty training and certification.

Respondents also highlighted connecting with other professionals (86%) as a key strategy for career growth, indicating that networking and collaboration across different areas of expertise are vital for building a well-rounded and resilient career. Events and research provide well-structured methods to address these more sophisticated and interdisciplinary needs, enabling developers to develop more mature and informed decision-making. One respondent emphasized the value of social capital and the opportunity to establish connections during events: "These events are powerful for connecting you with people you would otherwise not have met."



FIGURE 3 INTRADISCIPLINARY (DEEP) AND INTERDISCIPLINARY (WIDE) NEEDS DRIVE CAREER ADVANCEMENT

How important are the following strategies to advancing in your career?



2024 Open Source Developer Survey, Q11, Sample Size = 332

How to meet OSS developers' intradisciplinary and interdisciplinary needs

FIGURE 4 prioritizes a number of resources and activities that can collectively provide an effective way to address intradisciplinary and interdisciplinary needs. Documentation (99%, sum of extremely important, very important, and important scores), sample code (89%), tutorials (86%), public forums (82%), research (79%), and training courses (76%) are collectively a set of resources that effectively address intradisciplinary needs.

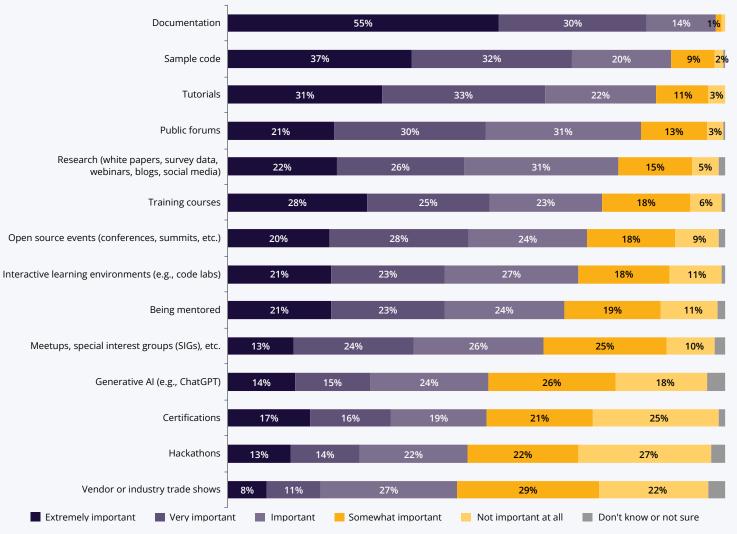
Open source events (72%) and meetups (63%) are unique activities that excel at addressing interdisciplinary needs. Respondents consider open source events (72%) more important than vendor or industry trade shows (46%), aligning with the good perceptions about the open source community-driven approach we showed in FIGURE 2. This underscores the unique value of open source events, where members of a diverse set of communities collaborate and share learning that is more deeply embedded, fostering an environment that is highly conducive to both intradisciplinary and interdisciplinary development.

By balancing the use of in-depth learning tools with active participation in collaborative events, developers can cultivate a well-rounded skill set that supports both deep expertise and wideranging industry awareness.



FIGURE 4 A BLEND OF RESOURCES AND ACTIVITIES PROVIDES A SOLUTION TO INTRADISCIPLINARY AND INTERDISCIPLINARY NEEDS

How important are the following resources or activities to your current IT role and career?



2024 Open Source Developer Survey, Q12, Sample Size = 332



How different kinds of events can help developers advance in their careers

FIGURE 5 highlights the varying importance of different events and resources for developers looking to advance in their careers, with open source events (conferences, summits, etc.) standing out as the most valuable across multiple strategies. A majority of developers find these events crucial to connect with other professionals (62%)—an interdisciplinary reason—and for demonstrating excellence in their current role (52%)—an intradisciplinary reason. As a software architect from Europe with more than 20 years of experience stated, when connecting with other professionals during events, developers have learning opportunities: "I return from every event full of ideas and eager to follow up on tech tips and recommendations."

Additionally, open source events are highly regarded for helping developers demonstrate excellence in their current roles (59%), improve existing skills (52%), and understand the impact of new technologies on their industries (56%). This indicates that open source events offer a comprehensive platform for skill development, knowledge acquisition, and professional networking, making them a key resource for career advancement.

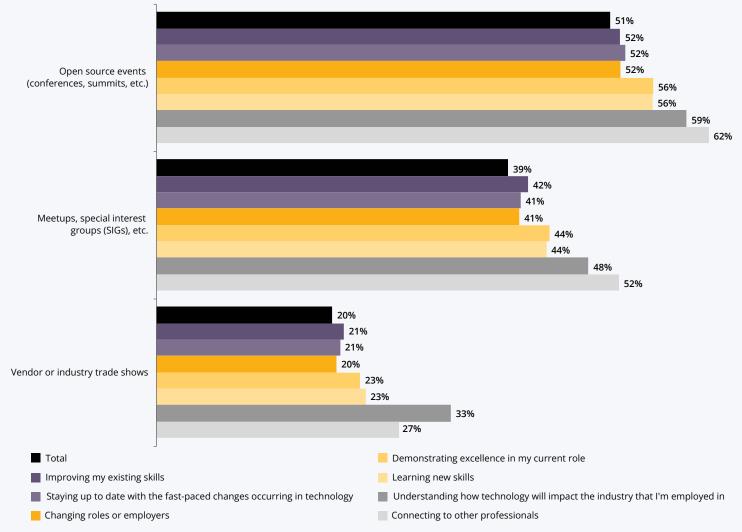
In comparison, meetups and special interest groups (SIGs) are also recognized as important, particularly for connecting with other professionals (52%) and staying informed about specific technology developments (44%). However, they are slightly less valued for broader strategies such as improving existing skills (41%) and demonstrating excellence in current roles (42%). On the other hand, respondents rate vendor and industry trade shows lower across all As a software architect from Europe with more than 20 years of experience stated, when connecting with other professionals during events, developers have learning opportunities: "I return from every event full of ideas and eager to follow up on tech tips and recommendations.

strategies, with the highest importance placed on staying up to date with technology changes (23%) and understanding the industry impact of new technologies (23%). While vendor and industry trade shows provide some value, they are more niche in relevance and do not contribute as significantly to broad career advancement as open source events or meetups and SIGs. Developers seeking comprehensive career development opportunities may benefit most from prioritizing open source events and supplementing these with participation in meetups and SIGs.



FIGURE 5 OPEN SOURCE EVENTS ARE VALUABLE FOR STRATEGIES FOR CAREER ADVANCEMENT

How important are the following resources or activities to your current IT role and career? segmented by: How important are the following strategies to advancing in your career?



2024 Open Source Developers Survey, Q12 x Q11, Sample Size = 315, Valid Cases = 315, Total Mentions = 2,110, only "Extremely important" and "Very important" responses shown for Q12 responses.



The increasing value that events are bringing over the years

The top chart in FIGURE 6 reveals that developers prioritize different types of events based on their relevance and impact on career advancement. Respondents perceive open source-focused events as the most important, with 62% of developers rating them as "Extremely important" or "Very important." Respondents value these events highly for their ability to provide relevant content, networking opportunities, and insights into the open source ecosystem, making them crucial for developers who want to stay engaged and updated in this rapidly evolving field. As a developer from Europe with 6–10 years of experience stated: "Attending events helps me grow as a developer and adapt to emerging tech. It's always nice to pause from daily tasks to attend these to gain new skills and meet like-minded individuals." Another respondent similarly added: "Attending an open source conference reshaped my career, and I felt connected to a community rather than tethered to a single organization."

In comparison, developers see industry-focused events as less valuable, with 28% rating them as "Extremely important" or "Very important." Respondents perceived vendor-focused events as even less valuable, with only 20% considering them "Extremely important" or "Very important" and 22% rating them as "Not important at all," suggesting that these events may not be as broadly impactful for overall career development of OSS developers.

The bottom chart in **FIGURE 6** shows that over the past three years, the importance of open source–focused events has increased significantly for many developers, with 52% reporting that the importance of these events has "Increased significantly" or "Increased somewhat." This trend reflects the growing recognition of the value these events offer in keeping pace with changes in the open source landscape and facilitating networking with peers and "Attending an open source conference reshaped my career, and I felt connected to a community rather than tethered to a single organization"

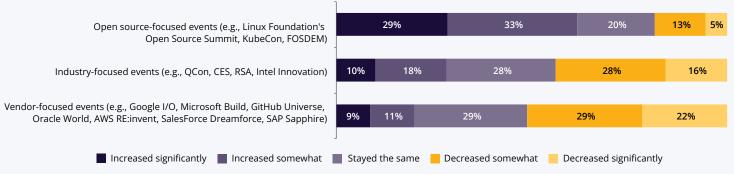
"Attending events helps me grow as a developer and adapt to emerging tech. It's always nice to pause from daily tasks to attend these to gain new skills and meet like-minded individuals"

experts. In contrast, vendor-focused events have remained relatively stable in importance, with 48% of developers indicating no change, suggesting that their narrow focus on specific products may no longer align with the broader interdisciplinary skill development needs of developers seeking more universally applicable knowledge and experience. Industry-focused events are on a similar trajectory as vendor-focused events, with 51% of developers indicating no change.



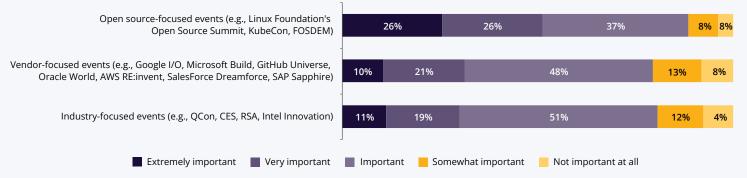
FIGURE 6 OPEN SOURCE EVENTS ARE MORE IMPORTANT AND ARE INCREASING IN IMPORTANCE FASTER THAN OTHER EVENTS

How important are the following types of events to you?



2024 Open Source Developer Survey, Q14, Sample Size = 332, "not important or not sure" responses excluded.

How has the importance of these types of events changed for you over the past 3 years?



2024 Open Source Developer Survey, Q16, Sample Size = 332, "Don't know or not sure" responses excluded.



The multidisciplinary value of attending open source events

Attending open source events delivers value in many different ways, including motivation, inspiration, skills transfer, best practices, community development, fun, networking, building relationships, solving outstanding technical problems, and shaping the future of OSS projects, as shown in FIGURE 7. Because open source is often boundaryless, transcending companies, technologies, and processes, open source events are an effective way to craft a deeper and wider involvement in OSS.

A majority of developers (63%) rated "Finding inspiration and motivation" as either "Extremely high value" or "High value," underscoring the importance of these events in maintaining enthusiasm and engagement in their work. Moreover, 53% of developers rated "Networking opportunities" as either "Extremely high value" or "High value," showing the relevance of these events to building professional relationships that can lead to new projects and collaborations. As a software architect from the United States with more than 20 years of experience stated: "I felt a spark of inspiration ignite within me. After the session, I mustered the courage to approach one of the panelists. We struck up a conversation, and before I knew it, we were exchanging contact information and ideas for future collaborations."

Similarly, "Learning new skills and best practices" was highly valued, with 60% rating it as "Extremely high value" or "High value," highlighting the role of these events in helping developers stay up to date with methodologies and tools essential for their career progression.

Linux Foundation events are especially popular among developers

FIGURE 8 presents data on the open source events that respondents have attended, showcasing the popularity of various events within the open source community. The most attended event is KubeCon/CloudNativeCon, with 40% of respondents having participated in this event. This is followed by Open Source Summits, which 27% of respondents attended, and PyCon, which attracted 15% of the survey participants. A KubeCon attendee had this to say about the event: "KubeCon Americas convinced me to the core that open source is the only way."

Thirteen percent of respondents attended regional open source events, such as SeaGL, Ohio LinuxFest, Texas LinuxFest, and FOSDEM, indicating solid regional engagement. Twelve percent of respondents attended Kubernetes Contributor Days, reflecting its niche but significant presence in the community.

Open source events for all ecosystems, not only for open source contributors

Open source ecosystems include people who consume and contribute to OSS. Consuming OSS means using OSS without necessarily contributing back to the project. This can involve activities such as installing and running OSS tools, using OSS components in proprietary software, or utilizing OSS for various projects without engaging in the development of the software.

An OSS contributor is someone who not only uses OSS but also actively contributes to the development, maintenance, or support of the software. FIGURE 9 in the next section shows that OSS consumers (50%) and OSS contributors (51%) perceive open source events as an important resource for career advancement at similar rates. Moreover, both groups considered open source events more important than meetups, SIGs, or vendor or industry trade shows. A developer from India with more than 20 years of experience stated: "I took ownership of my learning and growth, as well as gaining confidence to take ownership of projects and innovate, solving problems at my organization."



FIGURE 7 PROFESSIONAL EVENTS DELIVER HIGH VALUE IN A MULTIDISCIPLINARY WAY

Thinking about the type of professional event that you attended the most, how much value have you obtained from attending these events over the last three years?

5	7							
Finding inspiration and motivation	33%	ġ.		30%	16%	6 <mark>8%</mark>	5%	9%
Learning new skills and best practices	28%		32	2%	17%	9%	<mark>6 4%</mark>	9%
Keeping up with the latest developments in the open source ecosystem (distinct from the broader tech industry)	- 29%		30	0%	18%	9%	<mark>3%</mark>	11%
Discovering new open source projects that may benefit my organization	26%		31%		20%	9%	6%	9%
Having fun	27%		26%		21%	10%	5%	10%
Networking opportunities	23%		29%		20%	13%	<mark>5%</mark>	11%
Advancing in my career	21%	23%	þ	20%	15	<mark>%</mark> 9%	6	12%
Finding solutions to technical challenges faced by my organization's open source projects	- 18%	26%		22%	1	14% 79	<mark>⁄6</mark>	13%
Building and maintaining collaborative relationships with other contributors from my projects	17%	27%		16%	11%	13%	1	6%
Helping in my job's day-to-day activities	14%	29%		21%	14	<mark>1%</mark> 8%	6	13%
Shaping the future of open source projects	18%	25%		18%	13%	11%	1	15%
Increasing visibility and reputation of myself and my organization	16%	26%		18%	16%	13%	b	11%
Receiving feedback on products and ideas	15%	23%		20%	15%	13%		14%
"Hallway" tracks (ad hoc hallway discussions)	14%	21%	ź	20%	15%	12%	17	7%
Finding new jobs and career opportunities	14%	16%	17%	21%)	19%		13%
Selling products and services	5% 11%	17%	21	%	28%		17	7%
Finding sponsors for projects	5% 11%	13%	17%		33%		22%	Ď
Extremely high value High value	Moderate value	Slight value	No	value 📃 Do	on't know or	not sure		

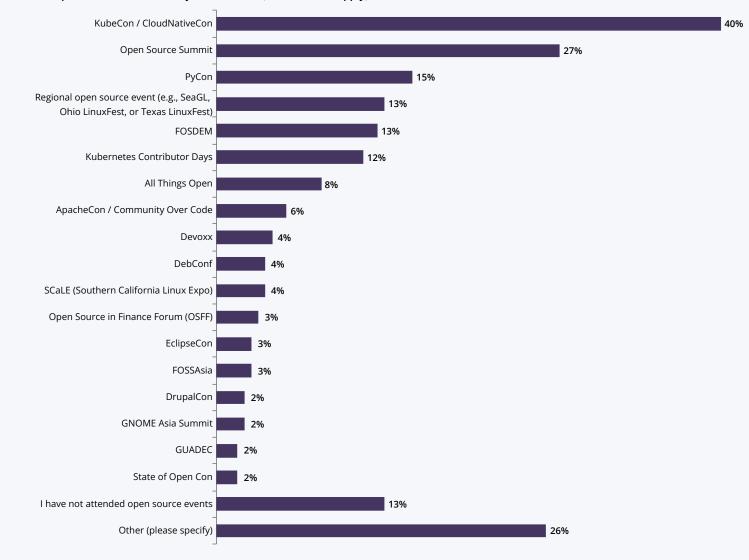
2024 Open Source Developer Survey, Q17, Sample Size = 332

In



FIGURE 8 THE POPULARITY OF OPEN SOURCE EVENTS

Which open source events have you attended? (select all that apply)

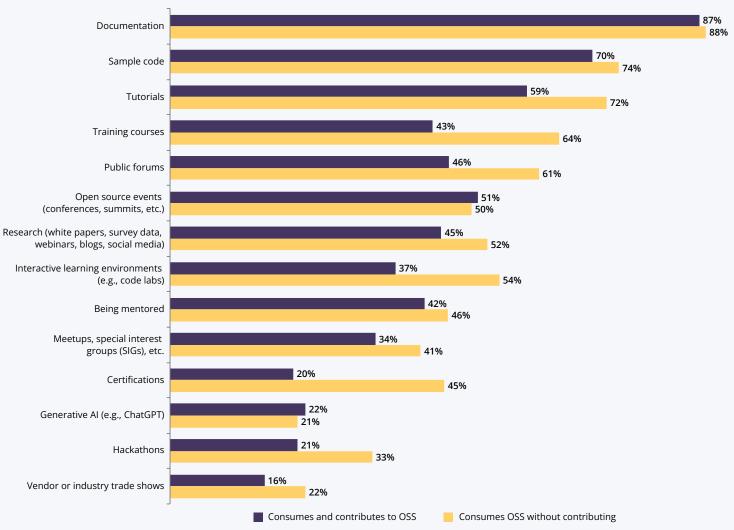


2024 Open Source Developer Survey, Q19, Sample Size = 181, Valid Cases = 181, Total Mentions = 365



FIGURE 9 OPEN SOURCE EVENTS ARE SIMILARLY IMPORTANT FOR OSS CONSUMERS AND OSS CONTRIBUTORS

How important are the following resources or activities to your current IT role and career? segmented by: What best describes your relationship with OSS?



2024 Open Source Developer Survey, Q12 x Q8rv, Sample Size = 315, Valid Cases = 315, Total Mentions = 2,090, only "extremely important" and "Very important" responses shown, OSS non-code contributors and not involved in OSS responses excluded.



Cost, time, and distance are the leading reasons for not attending events

FIGURE 10 illustrates the various reasons preventing developers from attending industry-focused, open source–focused, and vendor-focused events. Cost of attendance is a significant barrier across all types, with industry-focused and vendor-focused events seeing the highest concern at 54%. Geographical barriers, such as events being too far away or not offered in the region, are particularly challenging for open source–focused events (48%), though this is also a concern for the two other event types. Time constraints are a notable issue, especially for industry-focused (44%) and vendor-focused (41%) events. In terms of specific challenges, respondents view vendor-focused events as less relevant to attendees' career goals, with 33% citing this as a reason for not attending compared with just 11% for open source events.

FIGURE 10 BARRIERS TO ATTENDING DIFFERENT TYPES OF PROFESSIONAL EVENTS

What has prevented you from attending the following categories of events? (select all that apply)

Industry-focused events	Open source-focused events	Vendor-focused events
54% Cost of attendance	49% Cost of attendance	54% Cost of attendance
	48% Events are too far away	43% Events are too far away
44% Lack of time	or not offered in my region	or not offered in my region
42% Events are too far away or not offered in my region	40% Lack of time	41% Lack of time
27% Lack of awareness or information	30% Lack of awareness or information	33% Lack of relevance to my job
about these events	about these events	and career goals
27% Travel restrictions	28% Travel restrictions	24% Travel restrictions
24% Difficulty obtaining permission or support from my employer	22% Difficulty obtaining permission or support from my employer	22% Lack of awareness or information about these events
23% Lack of relevance to my job and career goals	11% Lack of relevance to my job and career goals	20% Difficulty obtaining permission or support from my employer
11% Quality and value of the events	6% Quality and value of the events	14% Quality and value of the events

2024 Open Source Developer Survey, Q21 (sample size = 231), Q22 (sample size = 151), Q20 (sample size = 190), numbers are percentages of respondents who selected each reason.



Conclusions

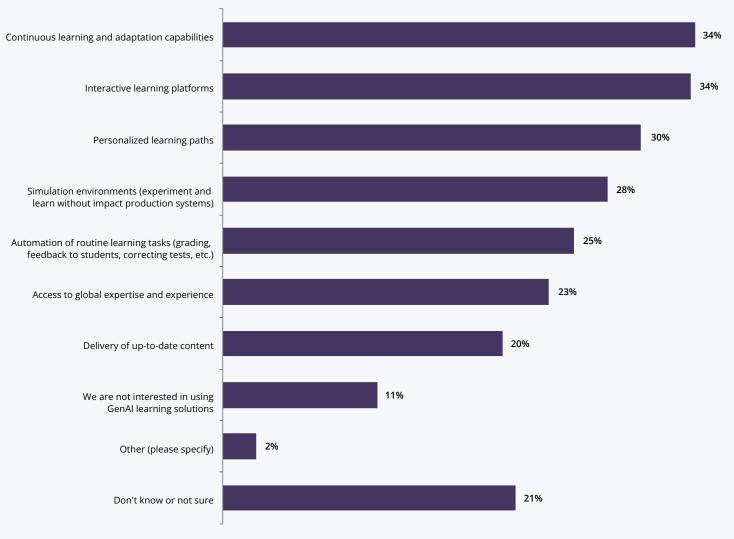
The survey revealed that a significant 96% of respondents (developers) have some involvement with OSS, consisting of developers who consume OSS without contributing (47%) and developers who both consume and contribute to OSS (49%). This high level of engagement underscores the strong commitment of the developer community to open source initiatives, highlighting the integral role OSS plays in their professional activities. Developers are not only consumers but also contributors, which suggests a deep integration of OSS in their workflows and a strong sense of community involvement and ownership.

In terms of career advancement, developers prioritize strategies that emphasize both intradisciplinary (deep) and interdisciplinary (broad) knowledge. Respondents view learning new skills, improving existing ones, and excelling in their roles as key to their professional growth. They value traditional resources such as documentation, sample code, and tutorials highly, but there is a growing recognition of the importance of participating in open source events. Respondents increasingly see these events as critical for addressing broader, interdisciplinary needs, offering opportunities for innovation, networking, and career growth that far surpass the perceived value of industry- and vendor-specific events. Despite their importance, barriers such as cost, time, and distance remain significant challenges to participation, indicating a need for improved accessibility.

Additionally, respondents expect generative AI to significantly shape the future of learning in the IT field, as shown in FIGURE 11. They expect generative AI to emphasize adaptive, interactive, and personalized learning, which will cater more specifically to known and anticipated developer needs. This provides numerous avenues for driving productivity while expanding developers' intradisciplinary and interdisciplinary knowledge.



FIGURE 11 GENAI WILL TRANSFORM HOW DEVELOPERS LEARN, ACT, AND DELIVER VALUE



Which of the following Generative AI (GenAI) learning solutions would your organization be interested in using? (select all that apply)

2024 Open Source Developer Survey, Q23, Sample Size = 332, Valid Cases = 332, Total Mentions = 761



Methodology

About the survey

This study is based on a web survey that Linux Foundation Research and its partners conducted from June to July 2024. The survey's goal was to understand the resources and activities software developers use to improve their technical skills, advance their careers, and stay up to date in a rapidly changing industry. In this section, we present the study methodology, context regarding how we analyzed the data, and the demographics of the respondents.

From a research perspective, it was important to eliminate any perception of sample bias and ensure high data quality. We handled the elimination of sample bias by sourcing our usable sample from Linux Foundation subscribers, members, partner communities, and social media. We addressed data quality through extensive prescreening, survey screening questions, and data quality checks to ensure that respondents had sufficient professional experience to answer questions accurately on behalf of the organizations they worked for.

We collected survey data from industry-specific companies; IT vendors and service providers; and nonprofit, academic, and government organizations. Respondents spanned many vertical industries and companies of all sizes, and we collected data from several geographies: the Americas, Europe, Asia-Pacific, and the rest of the world. The 2024 Open Source Developer Survey comprised 24 questions that addressed screening; respondent demographics; developers' involvement with OSS; strategies for career advancement; perceptions of the benefits of various resources and professional events; barriers to attending such events; and their personal experiences, feedback, suggestions, and thoughts on professional events.

For information about access to the 2024 Open Source Developer Survey, its dataset, and survey frequencies, see the Data.World access information below.

The high-level design of the survey is as follows:

FIGURE 12 SURVEY DESIGN

Pages	Questions	Question categories	Who answers the questions
P1		Introduction	All respondents
P2	Q1-Q2	Introductory questions	All respondents (N = 332)
Р3	Q3-Q8	Please tell us about yourself	All respondents (N = 332)
P4	Q9-Q10	Tell us about your involvement in open source	All respondents (N = 332)
Р5	Q11-Q12	How do you advance your career?	All respondents (N = 332)
P6	Q13-Q24	Tell us about your experience with professional events	All respondents (N = 332)

2024 Open Source Developer Survey



Survey screening involves the use of the following criteria to validate the respondent:

- Is a Linux Foundation subscriber, member, or contributor
- Is in an IT role involved with software development, either being a developer or managing a software development team
- Is employed (or self-employed) full time or part time, a student enrolled full time or part time, unemployed and seeking their first IT role, or unemployed and looking for work after previously being employed in IT

A total of 332 respondents completed the survey. The margin of error for this sample size was +/- 4.6% at a 90% confidence level and +/- 5.4% at a 95% confidence level.

We stratified the data collection by role, software developer involvement, OSS involvement, employment type, company size, years of professional experience, and geographic region.

Although we required respondents to answer nearly all questions in the survey, we made a provision for when a respondent was unable to answer a question. We accomplished this by adding a "Don't know or not sure" (DKNS) response to the list of responses for every question. However, this creates a variety of analytical challenges.

One approach was to treat a DKNS response just like any other response so that the percentage of respondents who answered DKNS was available to us. The advantage of this approach is that it shows the exact distribution of data collected. The challenge with this approach is that it can distort the distribution of valid responses, i.e., responses where respondents could answer the question. Some of the analyses in this report exclude DKNS responses. This is because we can classify the missing data as either missing at random or missing completely at random. Excluding DKNS data from a question does not change the distribution of data (counts) for the other responses, but it does change the size of the denominator used to calculate the percentage of responses across the remaining responses. This has the effect of proportionally increasing the percentage values of the remaining responses. Where we have elected to exclude DKNS data, the footnote for the figure includes the phrase "DKNS responses excluded."

The percentage values in this report may not total to exactly 100% due to rounding.

Data.World access

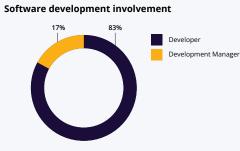
LF Research makes each of its empirical project datasets available on Data.World. Included in this dataset are the survey instrument, raw survey data, screening and filtering criteria, and frequency charts for each question in the survey. LF Research datasets, including this project, can be found at Data.World/thelinuxfoundation. Access to Linux Foundation datasets is free but does require you to create a Data.World account.



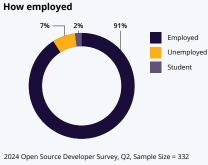
Respondent demographics

These demographics provide you with a profile of the 2024 Open Source Developer Survey respondents. We have regrouped all of the demographics in **FIGURE 13** to facilitate more insightful analysis. For the original source data and study frequencies, please see the Data.World access described above.

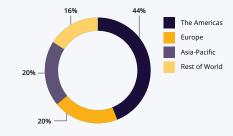
FIGURE 13 A BALANCED DEVELOPER-CENTRIC SAMPLE



2024 Open Source Developer Survey, Q1, Sample Size = 332

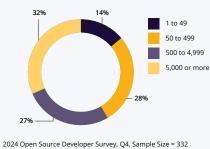


Region of residence

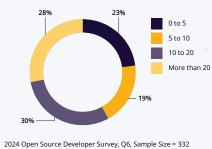


2024 Open Source Developer Survey, Q3, Sample Size = 332

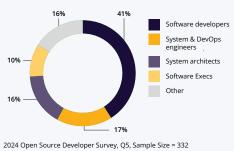
Company size (employees)



Years of professional experience







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About the authors

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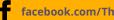
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