

Open Source Jobs Report:

*Employers Prioritize Hiring Open Source
Professionals with Latest Skills*

August 2017



Executive Summary

It's increasingly an open source world. Google, Twitter, Facebook, eBay, Pinterest... the list goes on of web companies running on open source code. Android **dominates** in the smartphone market. And **automakers** are coming together to standardize Linux for everything from self-driving cars to streaming entertainment.

That can only mean more opportunities for open source professionals as companies strive to cut time to market with innovative products and gain greater efficiency in operations.

The results of the 2017 Open Source Jobs Survey indicate employers' zeal for open source talent will only tighten the already highly competitive market.

This year's survey includes responses from nearly 300 hiring managers at corporations, small and medium businesses (SMBs), government organizations and staffing agencies across the globe—as well as responses from more than 1,800 open source professionals worldwide.

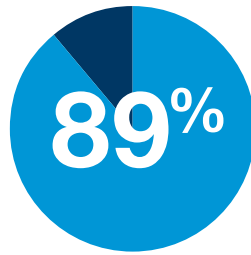
Key findings from the 2016 Open Source Jobs Survey and Report show that:

- Sixty-seven percent of managers say **hiring of open source professionals will increase more than other areas** of the business in the next six months.
- **A growing number of companies (60 percent) are looking for full-time hires**, compared with 53 percent last year.
- Nearly half of companies are **willing to pay for employees to become open source certified**.
- **Developer (73 percent), DevOps engineer (60 percent) and Systems Administrator (53 percent) are the most common positions employers seek to fill.** Open source cloud (47 percent), application development (44 percent), Big Data (43 percent) and both DevOps and security (42 percent) are the skills most in-demand.

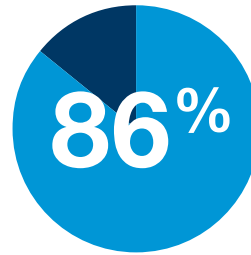
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Demand is strong for open source skills



of hiring managers say it's **difficult to find open source talent**



of professionals say **open source has advanced their career**

In the 2017 survey, 58 percent of hiring managers say they will hire more open source professionals in the next six months, and 67 percent say hiring of open source professionals will increase more than in other areas of the business. This represents a two-point increase over last year in employers who said open source hiring would be their top field of recruitment.

When asked about the factors fueling their hiring plans, 60 percent cited company growth, followed by increasing use of open source technologies (42 percent) and open source becoming core to their business (30 percent). Respondents could choose more than one answer.

And a growing number of companies (60 percent) are looking for full-time hires, an increase of seven percentage points.

Potentially reflecting rising global uncertainty, only 43 percent of hiring managers in 2017 report the economy is encouraging them to hire more, down from 57 percent in 2016.

And not surprisingly, 89 percent of hiring managers say it is difficult to find the right mix of experience and skills, similar to last year's 87 percent.

Meanwhile, 86 percent of open source professionals believe that knowing open source has advanced their career, and 52 percent say it would be easy to find another job. Only 27 percent report they have not received a recruiting call in the past six months.

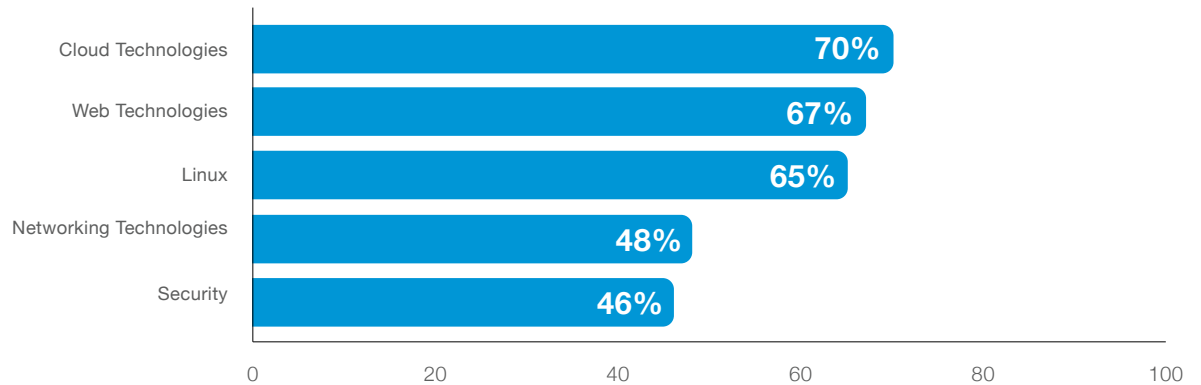
With the **tech unemployment rate** holding steady at around 2.5 percent, employers are keen to hang on to talent once they find it. With the rate as low as 1.2 percent for programmers, filling these and other IT positions can be especially tricky. The year began with a bump in the turnover rate, signaling that IT pros felt confident in their ability to find new positions that would make better use of their skills – and intensifying employers need to keep existing employees happy.

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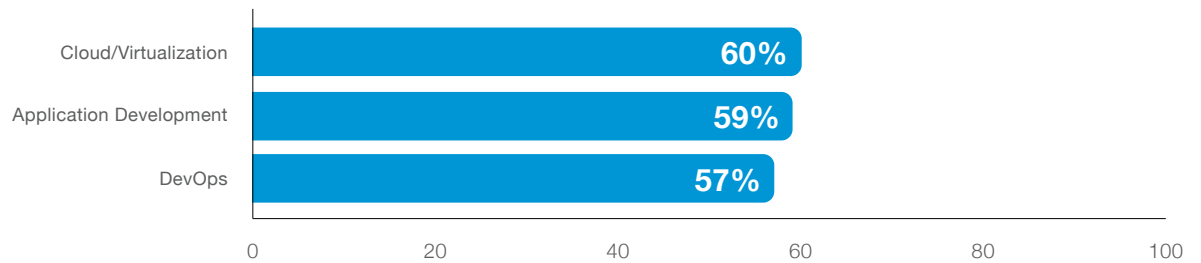


Developers, cloud skills dominate

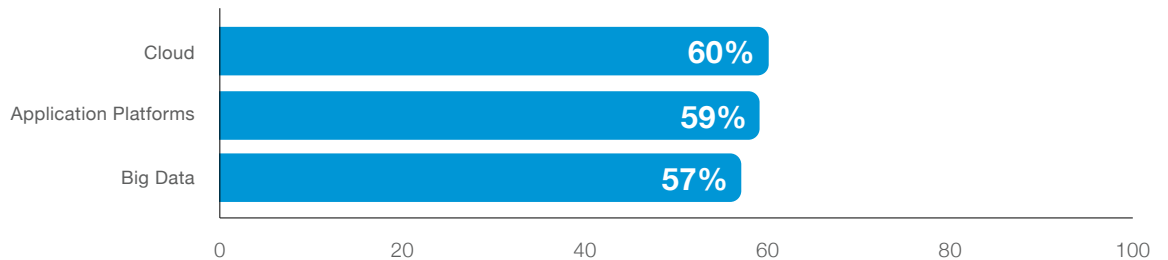
Hiring managers are looking for talent in the following areas:



Most sought after open source skills:



Areas of expertise most affecting hiring decisions:



The digital transformation occurring across the economy includes a huge push to the cloud and emerging new architectures such as containers and microservices. It brings an evolving range of **in-demand skills** in areas such as cloud migration, application integration, automation, data analytics and security.

Most enterprises are still in transition, making pros with skills in **hybrid environments** all the more valuable. Meanwhile, container technology is growing exponentially, indicating likely future shortages.

Additionally, increased use of public clouds and software-as-a-service has added to concerns about ransomware and other malware as well as shortages of security skills.

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Developer remains the position most hiring managers in this survey (73 percent) seek to fill. They also need DevOps Engineers (60 percent) and Systems Administrators (53 percent).

Cloud technology such as OpenStack and Cloud Foundry ranked as the most sought-after area of expertise among 70 percent of employers, up from 66 percent in 2016. Web technologies placed second, with 67 percent of hiring managers citing need for that knowledge, compared with 62 percent last year. Demand for Linux talent remains strong, with 65 percent of hiring managers looking for those skills, down slightly from 71 percent in 2016.

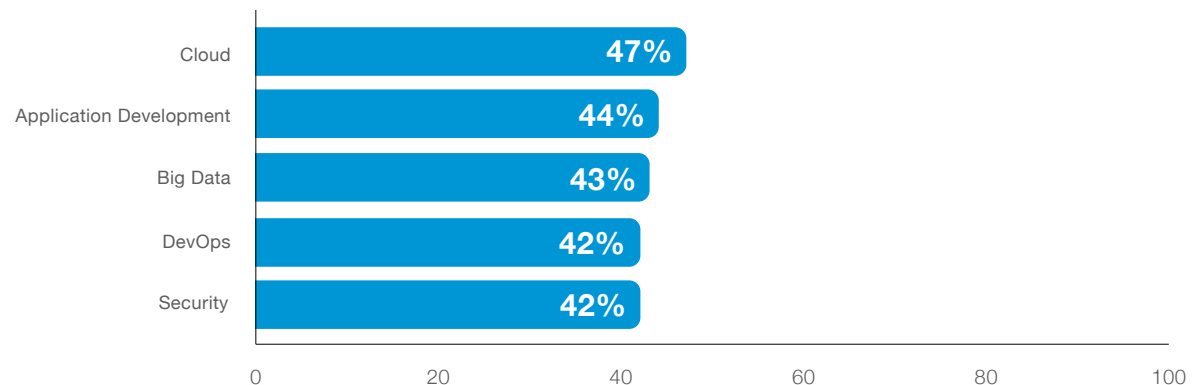
The technologies most influencing hiring decisions are cloud (62 percent), application platforms (56 percent) and Big Data (53 percent).

The most desirable open source skill is cloud/virtualization this year among 60 percent of hiring managers, followed by application development (59 percent) and DevOps (57 percent).

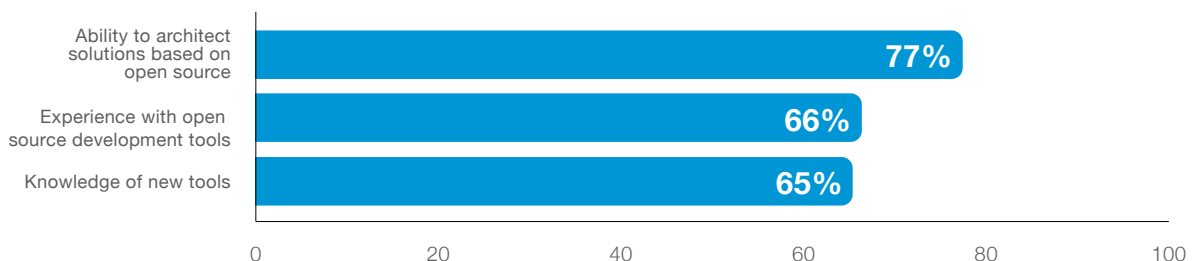
It should be noted that cloud and DevOps work increasingly assumes Linux is running underneath. The most **popular DevOps tools** – Chef, Puppet and Ansible – were created as open source, with Windows support added later.

Linux also underpins Google's and Amazon's public **clouds**. At the same time, Azure's **growth**, nearly doubling in the past year, also illustrates the predominance of Linux in the cloud. Microsoft has said that about 30 percent of Azure instances also run on Linux, with the percentage rising to as much as **50 percent** on new workloads. It continues to add to its open source footprint with Linux **container** and Kubernetes **tools**.

Open source pros see the most in-demand skills as:



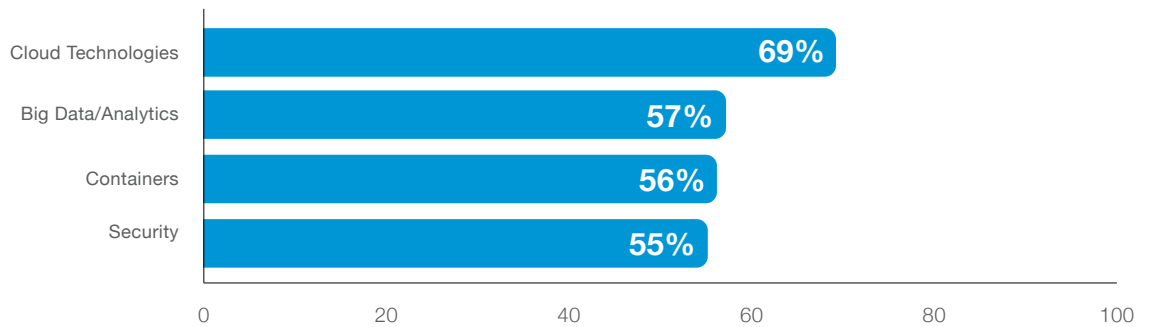
Professionals think the most valuable skills in their jobs are:



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Professionals predict the following skills will gain in importance the next year:



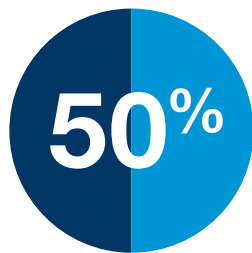
Meanwhile, lining up with the market, open source pros list the most in-demand skills as cloud (47 percent), application development (44 percent), Big Data (43 percent) and both DevOps and security at 42 percent.

The ability to architect solutions based on open source software topped the list of valuable skills in the views of professionals (77 percent), followed by experience with open source development tools like GitHub (66 percent) and knowledge of new tools (65 percent).

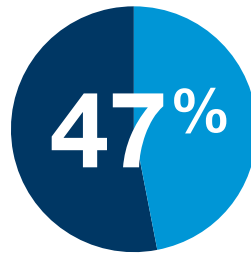
They predict the next year will be bright for those with skills in cloud technologies (69 percent); Big Data and analytics (57 percent); containers (56 percent); and security (55 percent).

Thirty-six percent of open source professionals report they work on container technology, up from 27 percent in 2016.

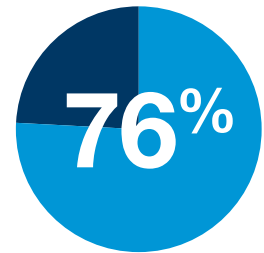
Get ahead by understanding the trending skills and training opportunities



of hiring managers are **more likely to hire a certified professional**



of companies will **help pay for employees' certifications**



of open source pros say **certifications are useful to their careers**

Professionals who understand which technologies are trending and how to seek out training opportunities will thrive in this new environment.

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Demand for skills in cloud administration, DevOps and continuous integration/continuous delivery are fueling a spike in interest in training and certifications related to open source projects and tools that power the cloud.

The upcoming launch of the Certified Kubernetes Administrator exam, along with existing cloud certifications, should help address the growing demand for these skills.

Sixty-four percent of hiring managers report their employees are either requesting or proactively taking training courses, up from 55 percent in 2016.

Half of hiring managers make finding certified pros a priority; 50 percent also say they are more likely to hire a certified candidate than one without a certification, up from 44 percent in 2016.

And there's been a big jump in companies willing to pay for employees to become certified. Nearly half say they're willing to pay, up from one-third a year ago. Only 21 percent say they definitely would not pay for certifications, down from 30 percent last year.

Pay premiums have consistently grown over the past year for certified skills in areas including information security; application development/programming languages; databases; networking and communications; and systems administration/engineering – skill sets that are among the hardest positions to fill. And according to Dice's annual salary survey, salaries for Linux professionals are in line with last year, at over \$100,000 annually, higher than the average \$92,000 for tech pros nationally.

Thirty-three percent of managers report they have offered additional training and/or certification opportunities as an incentive to retain employees, up from 26 percent last year.

Employers can use this benefit as a recruiting tool and should mention it in job postings. Likewise, candidates for whom training is important should make that clear during the interview process.

Nearly all types of training have increased this year, with online/virtual courses the predominant method, requiring no travel and offering anytime access. Sixty-three percent report using this mode of training, an increase of 14 percentage points over last year's 49 percent. Other methods include on-site training (39 percent) and individual training courses (49 percent).

Employers increasingly prefer vendor-neutral training providers; 68 percent of hiring managers reported this as important, up from 63 percent in 2016.

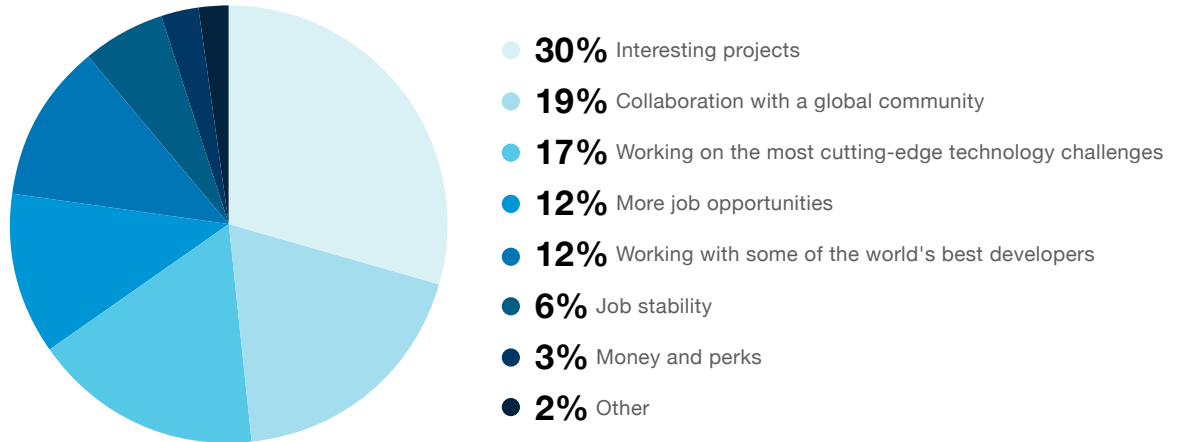
Formal training and/or certifications are a priority for hiring managers looking for developers (55 percent vs. 47 percent who said so in 2016) and for Systems Administrators (53 percent vs. 47 percent last year).

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Meanwhile, 76 percent of professionals say certifications are useful to their careers, primarily to demonstrate technical knowledge to potential employers (reported by 47 percent of respondents), and that certifications make them more employable, in general (31 percent).

Pros appreciate community and interesting projects



Though open source professionals appreciate high wages, the opportunity to do interesting and important work motivates them more.

Only 14 percent said money and perks were the reason they chose an open source career, and only three percent cited those as the best things about their jobs. The main reasons they chose this career are the freedom of open source (71 percent), their personal passion about open source (68 percent), and that open source runs modern technology (65 percent).

In numbers essentially unchanged from last year, they say the best thing about their job is the ability to work on interesting projects (30 percent), collaborate with a global community (19 percent) and work on cutting-edge technology challenges (17 percent).

Higher salary, however, remains the biggest motivator to change jobs (82 percent). Other deciding factors would be better work/life balance (67 percent), and better training and certification opportunities (65 percent).

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2017 Open Source Jobs Report Methodology

During July 2017, Dice and The Linux Foundation surveyed both hiring managers and open source professionals about their jobs needs and preferences. Hiring managers from corporations, small and medium businesses (SMBs), government organizations and staffing agencies were surveyed. More than 280 responded with 77 percent indicating their company was headquartered in North America, 10 percent in Europe, 2 percent in Asia (except Japan), 2.5 percent in South America, 3 percent in Africa and less than 1 percent each in Australia/ New Zealand, Japan, the Middle East, Mexico, and Central America. Respondents needed to have hired at least one open source professional in the last year, or have plans to hire open source professionals in 2017 to participate in the survey. In addition, more than 1,800 open source professionals responded to a survey, with 77 percent indicating they've been working as an open source professional for three years or more.

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