Recruiter Cheat Sheet:
How to Assess Technical Roles

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Introduction

Recruiter Cheat Sheet: How to Assess Technical Roles

Technical recruiters have an undeniably challenging job. Not only do they need to source, recruit, and onboard quality technical candidates across a wide variety of roles, but they're also responsible for helping to craft technical teams that can work well together.

Technical teams, perhaps more than any other role in an organization, need to be able to work together seamlessly. After all, their roles are intrinsically linked; they depend on one another to successfully churn out company projects.

> **To help hire successful technical candidates means more than finding someone with the right skills–it means finding a candidate that also suits the needs of your team. And that starts with understanding what makes each role unique.**

We created this guide to help you understand exactly how each major technical role contributes to the overall productivity of the technical organization, and what makes a standout candidate in each role.

For each role, we'll address 3 key components:

- **Expertise:**
  Technical skills necessary for success in the role.
- **Team Compatibility:**
  Specific qualities will allow for successful collaboration in the role.
- **Soft Skills:**
  Non-technical skills that will allow someone to exceed in this role.

In addition, we'll also list some additional information to keep in mind:

> **In Their Stack:**
> The most popular languages and frameworks for the role, based on data from our **2018 Developer Skills Report**

Each role will be broken down into a checklist guide of suggested qualities. Note that these checklists are designed to act as guidelines—to ensure you're on the right track, it's best practice to refine your wishlist with the rest of the hiring team.

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01 Linking Key Technical Roles

Understanding how technical roles differ (and how they're similar) is one surefire way to ensure a good fit. Not only will it help you better understand each respective role, but how each of them work within the rest of the team––a must-know when screening for team fit.

The Technical Ecosystem

Technical Org Chart Example: SaaS model

The technical roles outlined in this guide fall under two broad teams: the data team, and the software development team. Both have different, but equally important roles in driving the organization forward. You can see this illustrated in the example to the left, which shows how technical teams operate within a SaaS company.

It's worth noting that there's no one-size-fits-all model for how these teams function in an organization; every case is unique. To truly understand how your technical teams function, it's best to sync up with your hiring manager.

With this context in mind, we'll move on to how to assess each team.

02 **Assessing Data Roles**

Data roles help companies become more data-driven through the power of quantitative evidence. Though their titles may sound similar, their roles are quite different, but still complementary. Each has a different part to play in mobilizing a data-driven organization.

Here's a quick breakdown of how each role functions:

- **Data Analyst:** The interpreter between the data world and the non-technical world. They're generalists that work with a wide variety of data, and help make it clear and actionable for non-technical company stakeholders, especially when it comes to key business decisions.
- **Data Scientist:** An intermediate between the Data Analyst and Data Engineer, the Data Scientist is tasked with answering key business questions and predicting them by forecasting future needs and challenges for the organization. They also help to improve the flow of data across the team.
- **Data Engineer:** The foundation of the data organization – they make both Data Analysts' and Data Scientists' jobs possible. Focused on software development, they build and maintain the infrastructure that captures data for the rest of the team to utilize.

DATA ANALYST

DATA SCIENTIST

Bridges the gap between
business development
and data team

Utilizes data
for BI applications

Upholds the ethics
of data usage

Helps key stakeholders
(e.g. C-Suite) interpret
the company's data

Showcases strong
business acumen

Makes business
predictios using
algorithms and
machine learning

Frequently communicates
with non-technical stakeholders

Helps company make
data-driven decisions

Translates requests
from non-technical
stakeholders

Leverages understanding
of analytics stack to
perform in their role

Utilizes
advancd
math skills
day to day

Determines most
valuable data to
capture

Improves flow of data

Responds to needs
and requests
of teammates

Frequently communicates
with technical stakeholders

Constructs & maintains
data pipeline

Constructs data pools
for team to pull from

DATA ENGINEER

HackerRank Checklist
Data Analyst

Expertise

○ **Basic statistics and data analysis experience**

○ **Track record of driving effective decision-making through data**

○ **Familiarity with your team's analytics stack**

○ **Hands-on experience with data visualization**

○ **Can work with the tools and languages utilized by your data team**

Team Compatibility

○ **Effective verbal, written, and visual communicator**

○ **Attentive listener, able to translate non-technical requests**

○ **Strong business acumen**

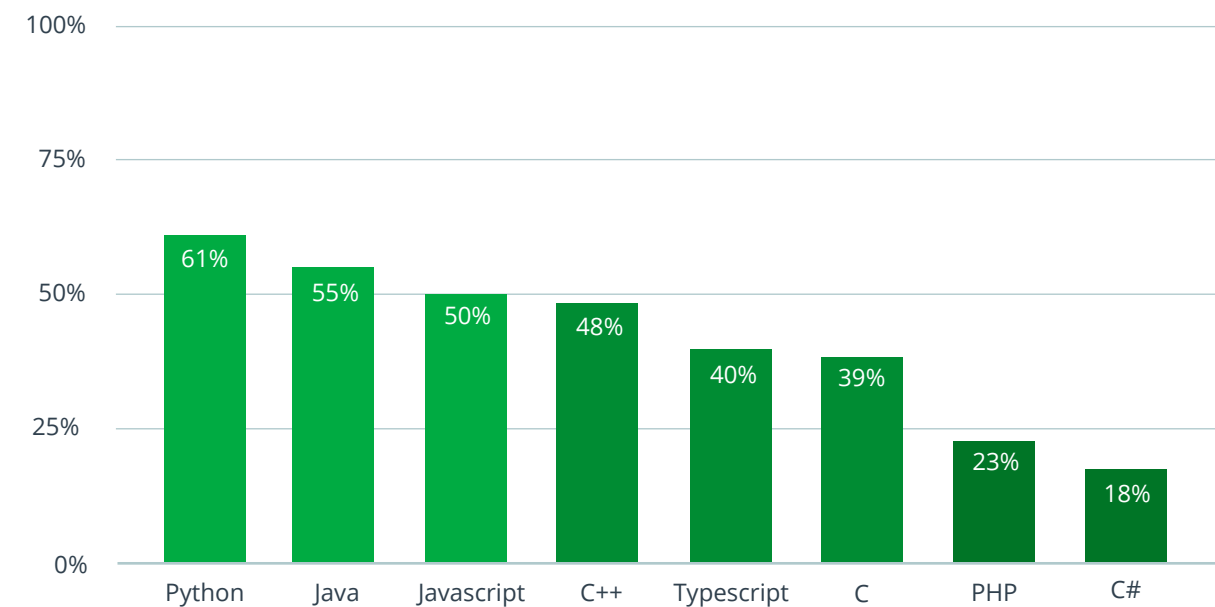○ **Self-motivated, problem-solver, takes initiative**

Soft Skills

○ **Displays innate sense of curiosity**

○ **Creative, can look at problems from multiple angles**

○ **Can think like a C-Suite executive**

○ **Open-minded, provides consistently objective analysis**

In Their Stack
Most common competencies

Data Analysts: Languages They Know

Language	Percentage
Python	61%
Java	55%
Javascript	50%
C++	48%
Typescript	40%
C	39%
PHP	23%
C#	18%

Source: 2018 Developer Skills Report

Data Scientist

Expertise

- ◯ **Can bring order to large sets of disorganized datasets**
- ◯ **Can maintain and/or train machine learning models**
- ◯ **Capable of working with the tools and languages utilized by your data team**

Team Compatibility

- ◯ **Able to collaborate with all roles of a data team**
- ◯ **Detail-oriented, catches data inconsistencies and inefficiencies**
- ◯ **Comfortable advocating for their data needs**
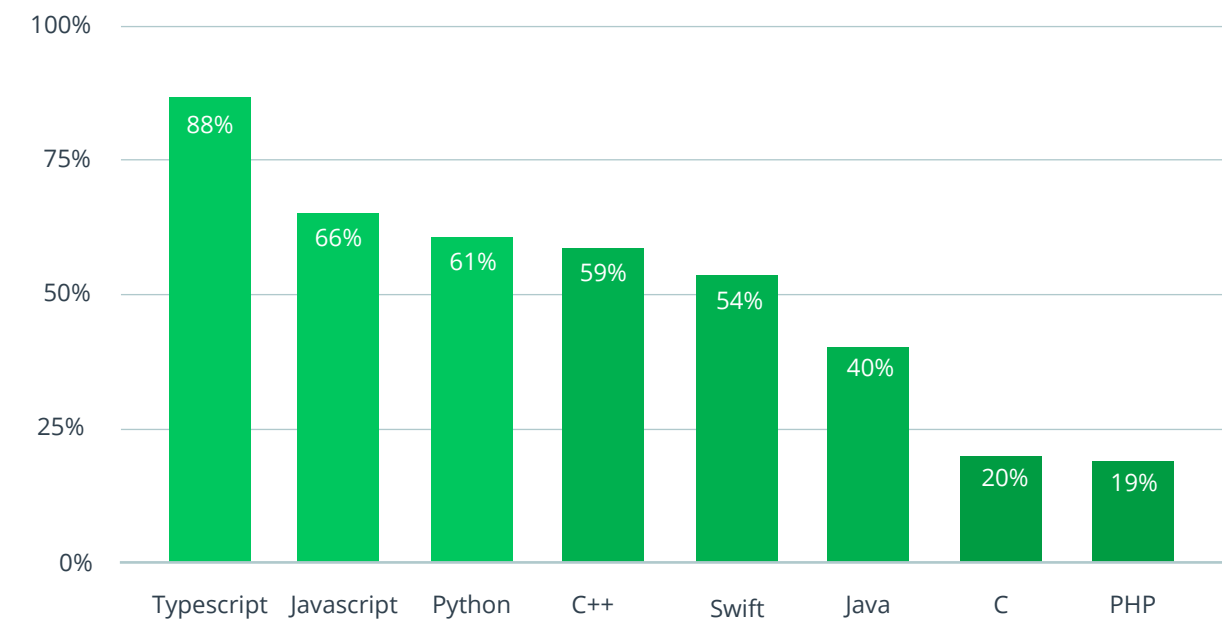- ◯ **Effective verbal, written, and visual communicator**

Soft Skills

- ◯ **Basic business savvy**
- ◯ **Curious, probing and a bit skeptical**
- ◯ **Willing to experiment and iterate on data processes**
- ◯ **Objective, pragmatic problem-solver**
- ◯ **Strong storytelling skills**
- ◯ **Asks ethical questions around data usage**

In Their Stack
Most common competencies

Data Scientists: Languages They Know

Language	Percentage
Typescript	88%
Javascript	66%
Python	61%
C++	59%
Swift	54%
Java	40%
C	20%
PHP	19%

Source: 2018 Developer Skills Report

HackerRank Checklist
Data Engineer

Expertise

- ○ "Generalist" background in software development
- ○ Familiar with the needs of a data-driven team
- ○ Extensive background your data team's framework(s)
- ○ Promotes data accessibility, efficiency, and quality

Team Compatibility

- ○ Empathetic to the needs of their teammates
- ○ Receptive to constructive feedback and suggestions
- ○ Familiar with your team's development methodology
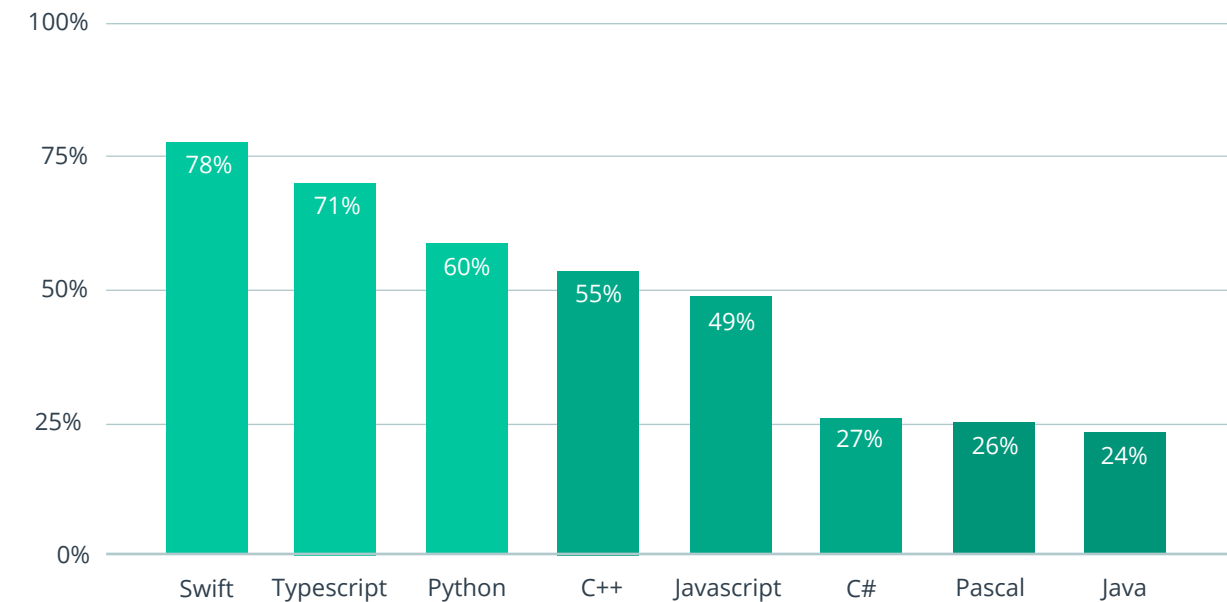- ○ Collaborative and team-oriented

Soft Skills

- ○ Interest in continual self-development
- ○ Objective, not attached to specific solutions
- ○ Focused and self-motivated
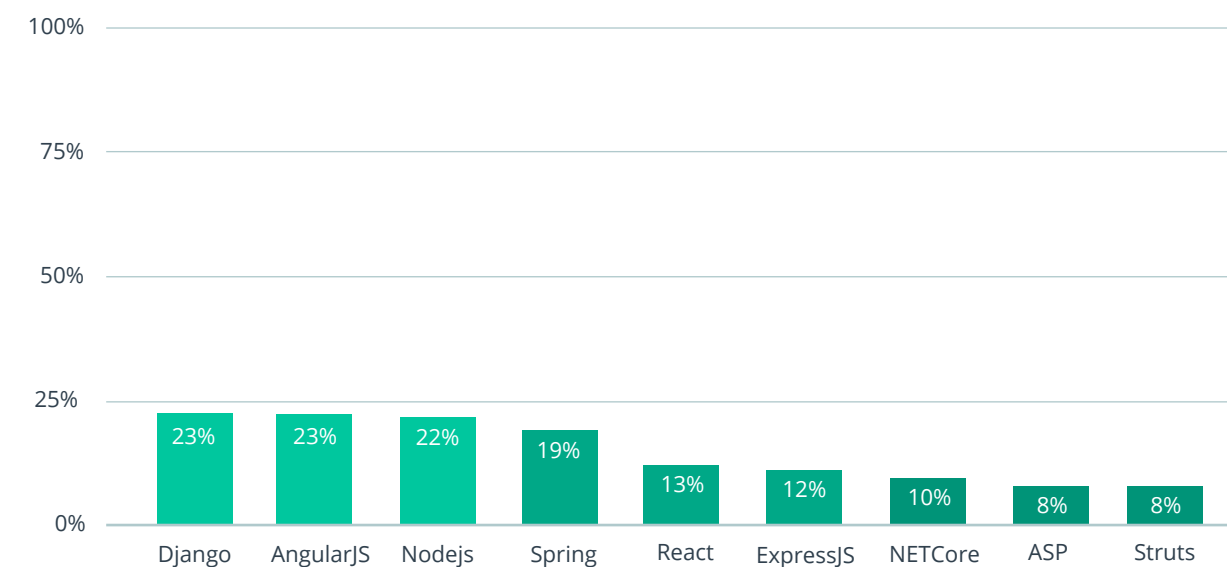- ○ Effective technical and non-technical communication skills

In Their Stack
Most common competencies

Data Engineers: Languages They Know

Language	Percent
Swift	78%
Typescript	71%
Python	60%
C++	55%
Javascript	49%
C#	27%
Pascal	26%
Java	24%

Data Engineers: Frameworks They Know

Framework	Percent
Django	23%
AngularJS	23%
Nodejs	22%
Spring	19%
React	13%
ExpressJS	12%
NETCore	10%
ASP	8%
Struts	8%

Source: 2018 Developer Skills Report

03 Assessing Software Development Roles

Though, as a whole, they have a unified goal, a software development team consists of an eclectic set of specialists, all with their own areas of expertise. More than any other technical team, software development teams must constantly be in sync; they're constantly building on one another's work to make headway toward a final product. In this category, finding personally and professionally compatible hires is mission critical.
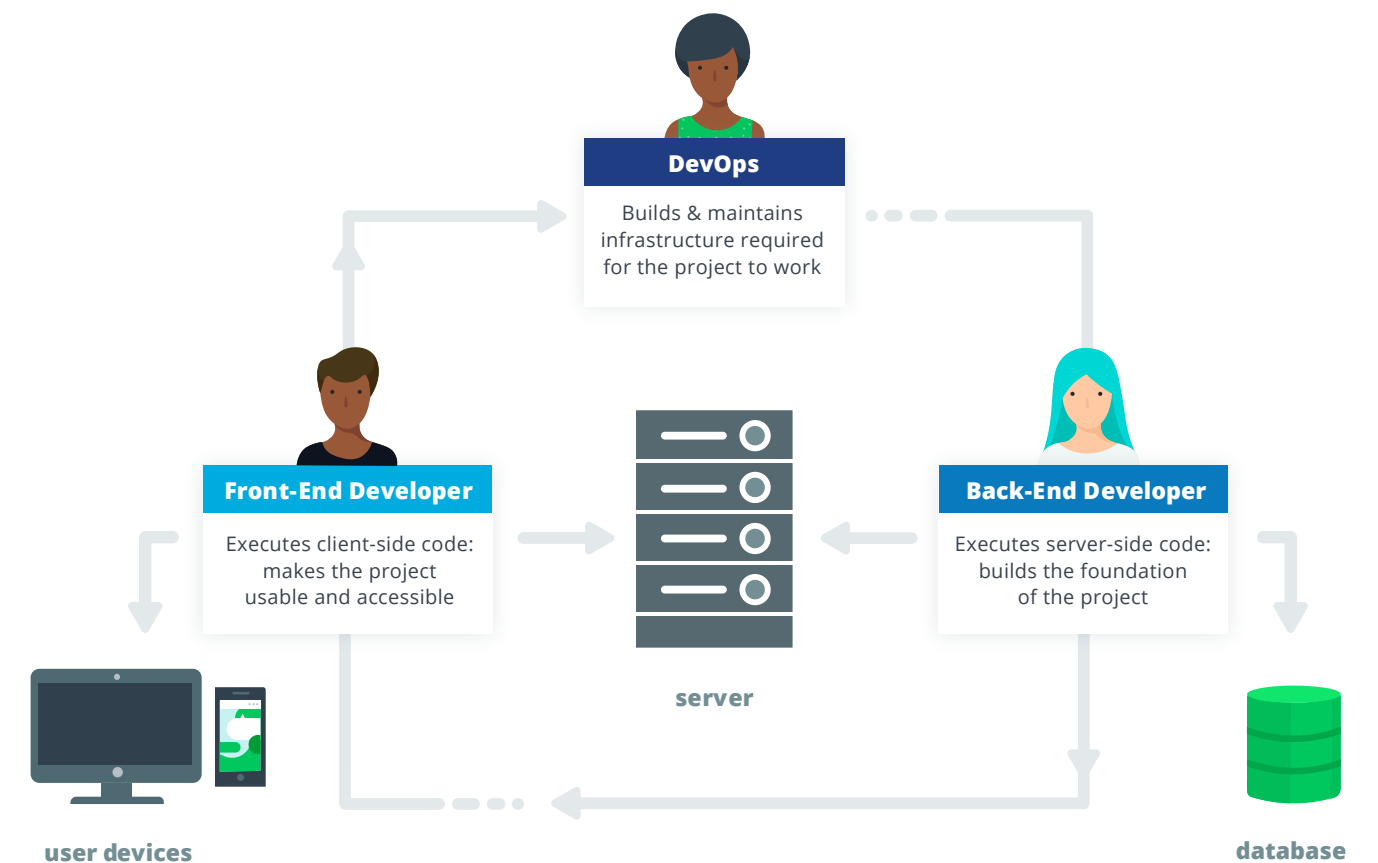
Here's how each role contributes to an organization:

Development Roles

- **Front-End Developer:** The liaison between the technical and non-technical world of any organization. They work between the back-end developers and non-technical stakeholders in design and product to create the client-facing.
- **Back-End Developer:** The architect that builds the base the front-end developer builds on. Tasked with writing server-side code, they're often utilized to build APIs, and are especially core in facilitating scalable designs.
- **Full-Stack Developer:** The generalist that's capable of working on both the front-end and the back-end. They often have a wide pool of skills and knowledge, but specialize in a select few technologies. Often, you'll find they're slightly more front-end oriented, or slightly more back-end oriented (rarely both). Note: There's some disagreement over how to define "full-stack" in this context. For the full backstory, check out this post.

Support Roles

- **DevOps Specialist:** They use knowledge of QA, software development, and operations to help make the software development software as smooth and efficient as possible. They make sure the work the team builds is sustainable in the long run – both from a technical standpoint, and from an operational one.

DevOps

Builds & maintains infrastructure required for the project to work

Front-End Developer

Executes client-side code: makes the project usable and accessible

Back-End Developer

Executes server-side code: builds the foundation of the project

server

user devices

database

Assessing Junior vs. Senior Developers

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Both Junior and Senior Developers can hold virtually any specialized development role—but their contributions won't always be the same. While Senior Developers are generally more seasoned and independent, Junior Developers may need more guidance to do their best work. Make sure you clarify the level of seniority you expect from each candidate in addition to the specialized skills you're seeking.

Here's what you can expect from each respective seniority level:

> **Junior Developer:** This level of developer is newer to the space, with limited experience, but a good technical foundation. Structure and mentorship from more seasoned developers to develop will help develop their skills to their full potential.

> **Senior Developer:** This level of developer is more seasoned, with a solid technical expertise within their stack. They've worked on a variety of technical projects over the years, and are comfortable self-managing to tackle the problems they're served.

Expertise

- ○ **Creative problem-solving skills**
- ○ **Basic coding knowledge and fundamentals**
- ○ **Some hands-on development experience** *(e.g. personal projects, internships, and the like)*
- ○ **Versed in basic testing and debugging procedures**
- ○ **Basic understanding of your team's core tech**

Team Compatibility

- ○ **Basic familiarity with your team's development philosophy**
- ○ **Experience working with a development team**
- ○ **Strong initiative, proactive problem-solver**
- ○ **Handles constructive criticism well**
- ○ **Displays strong sense of curiosity**

Soft Skills

- ○ **Hunger to expand their technical knowledge**
- ○ **Self-starter, requires little oversight to stay motivated**
- ○ **Thorough and detail-oriented**
- ○ **Basic technical and non-technical communication skills**
- ○ **Team player**

Expertise

- ○ **Can execute the software development cycle end-to-end**
- ○ **Plans for the long-term in their work**
- ○ **Engages with technical blogs, podcasts, and more to stay current**
- ○ **Able to lead and manage project with minimal guidance**
- ○ **Reliable, meets committed deadlines**

Team Compatibility

- ○ **Experience working cross-functionally with other departments**
- ○ **Team-oriented and willing to seek guidance and collaboration from their peers when needed**
- ○ **Comfortable mentoring fellow developers**
- ○ **Modest, willing to take input from others**

Soft Skills

- ○ **Demonstrates accountability**
- ○ **Gladly works on both challenging and seemingly menial tasks**
- ○ **Advanced technical communications skills**
- ○ **Solid non-technical communications skills**
- ○ **Invests in continual self-development**

HackerRank Checklist
Front-End Developer

Expertise

- ○ **Well versed in HTML, CSS, and JavaScript**
- ○ **Understands a variety of design patterns and new web technologies**
- ○ **Has diversified framework and architecture knowledge**
- ○ **Understands UX/UI concepts, including perceived experience and tradeoffs**
- ○ **Proficient in front-end testing, debugging, and security**
- ○ **Exercises the atomic design principle**

Team Compatibility

- ○ **Familiar with your team's development methodology**
- ○ **Familiar with your team's front-end framework(s) of choice**
- ○ **Proactively discusses use cases with teammates**
- ○ **Works well with established style guides and coding patterns**
- ○ **Basic grasp of teammates' roles, especially back-end developers**
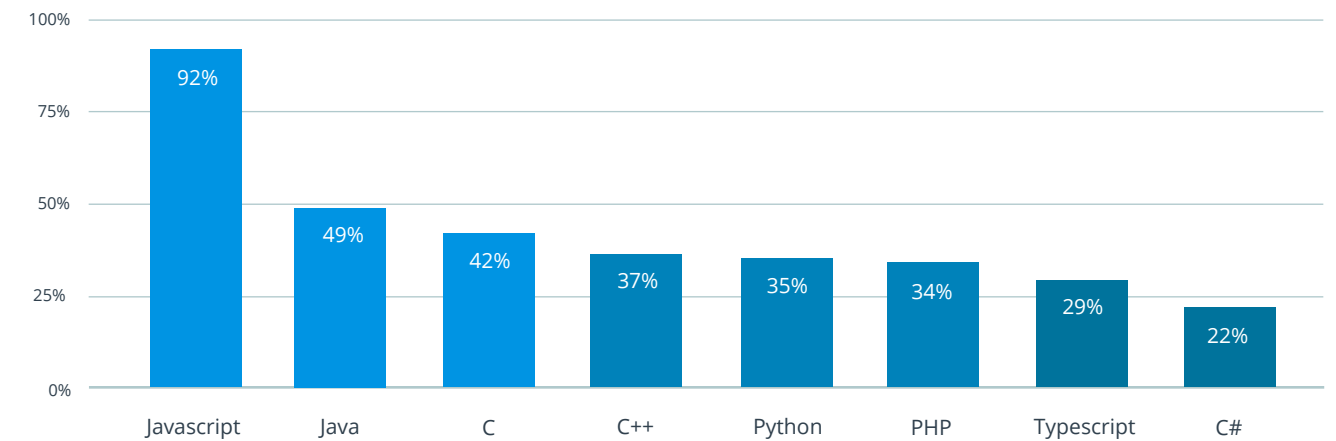- ○ **Team player, easy to work with**

Soft Skills

- ○ **Exceptional non-technical communication skills**
- ○ **Sense of empathy for the end user**
- ○ **Naturally detail-oriented**
- ○ **Invested in continued self-education**
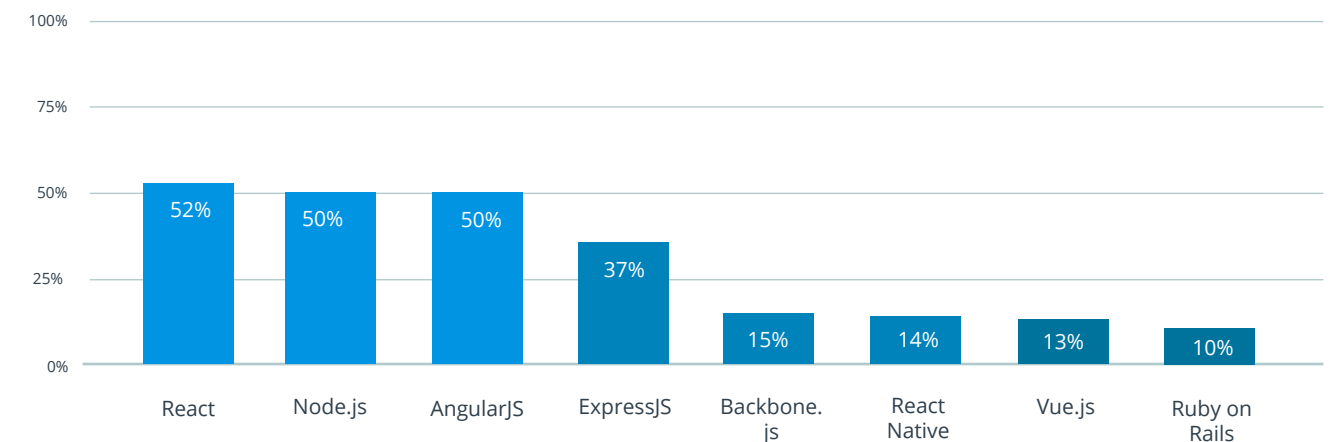- ○ **Can produce work up to the brand's aesthetic standard**

In Their Stack
Most common competencies

Front-End Developers: Languages They Know

Language	Percentage
Javascript	92%
Java	49%
C	42%
C++	37%
Python	35%
PHP	34%
Typescript	29%
C#	22%

Front-End Developers: Frameworks They Know

Framework	Percentage
React	52%
Node.js	50%
AngularJS	50%
ExpressJS	37%
Backbone.js	15%
React Native	14%
Vue.js	13%
Ruby on Rails	10%

Source: 2018 Developer Skills Report

HackerRank Checklist
Back-End Developer

In Their Stack
Most common competencies

Expertise

- ○ **Understands a variety of software design patterns and frameworks**
- ○ **Delivers high quality, scalable server-side code**
- ○ **Quick study, easily picks up new tech**
- ○ **Knows standards and best practices within their tech stack**
- ○ **Strong architectural skills**

Team Compatibility

- ○ **Stack match for your team**
- ○ **Works well with both technical and non-technical teammates**
- ○ **Familiar with team's existing development methodology**
- ○ **Contributes to both code and design reviews**
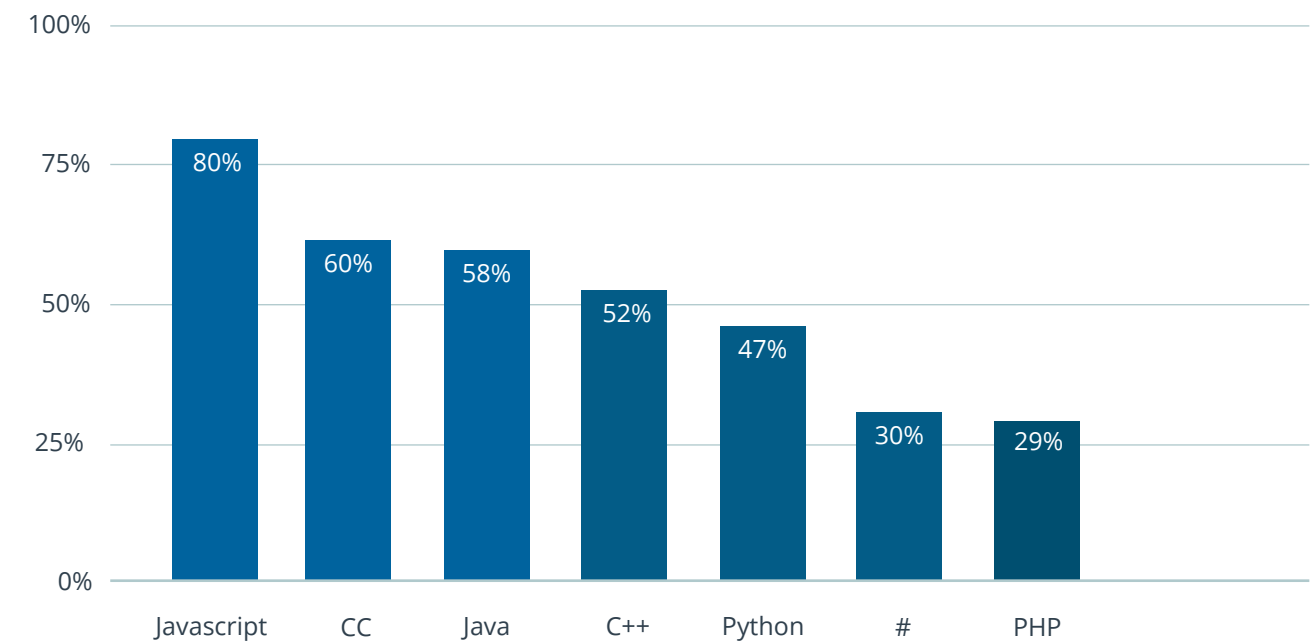- ○ **Keeps detailed design docs for team reference**

Soft Skills

- ○ **Flexible, objective project-solver**
- ○ **Accountable, owns their hits and misses**
- ○ **Gladly tackles problems of all shapes and sizes**
- ○ **Robust technical communication skills**
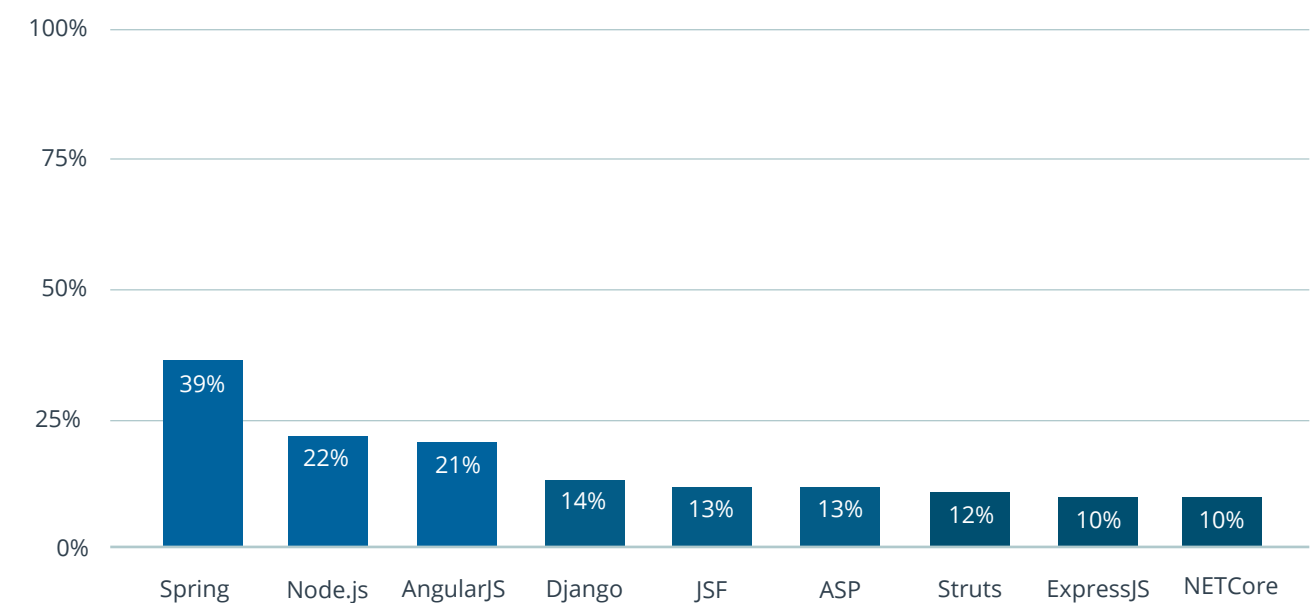- ○ **Strong non-technical communication skills**

Back-End Developers: Languages They Know

Javascript	CC	Java	C++	Python	#	PHP
80%	60%	58%	52%	47%	30%	29%

Back-End Developers: Frameworks They Know

Spring	Node.js	AngularJS	Django	JSF	ASP	Struts	ExpressJS	NETCore
39%	22%	21%	14%	13%	13%	12%	10%	10%

Source: 2018 Developer Skills Report

HackerRank Checklist
Full-Stack Developer

NOTE: The role of the Full-Stack Developer is a hotly debated topic. For a primer, check out this blog post.

Expertise

○ **Self-sufficient:** can build an MVP independently

○ **Stack match for your team**

○ **Comfortable thinking at a high technical level**

○ **Understands tech beyond their stack of expertise**

○ **Drives best practices across the team's tech stack**

Team Compatibility

○ **Knows your team's development style** *(e.g. agile, waterfall, and so on)*

○ **Knowledgeable and willing mentor**

○ **Strong technical communication skills**

○ **Easygoing, team player**

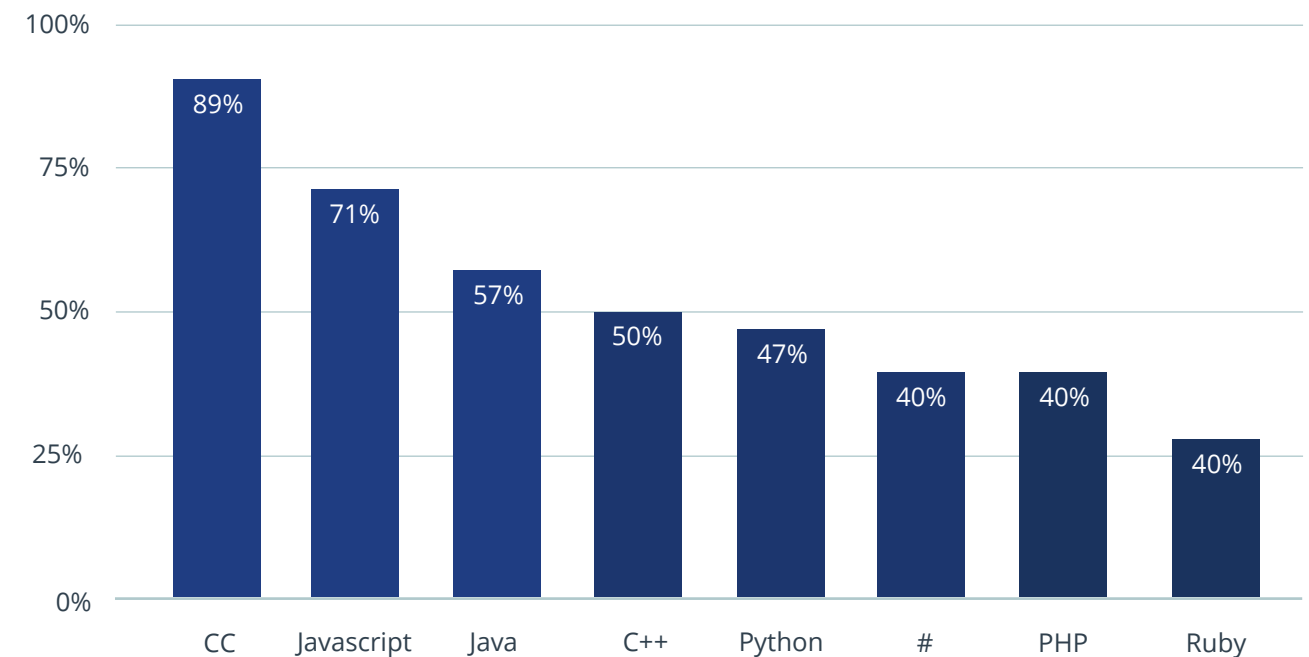○ **Humble in their work:** knows what they don't know

Soft Skills

○ **Lifelong learner:** prioritizes self-education

○ **Creative, motivated problem-solver**

○ **Self-starting:** manages themselves well

○ **Global thinker:** mindful of technical and non-technical context of their work

○ **Objective:** makes decisions around what a project needs (not what they prefer)

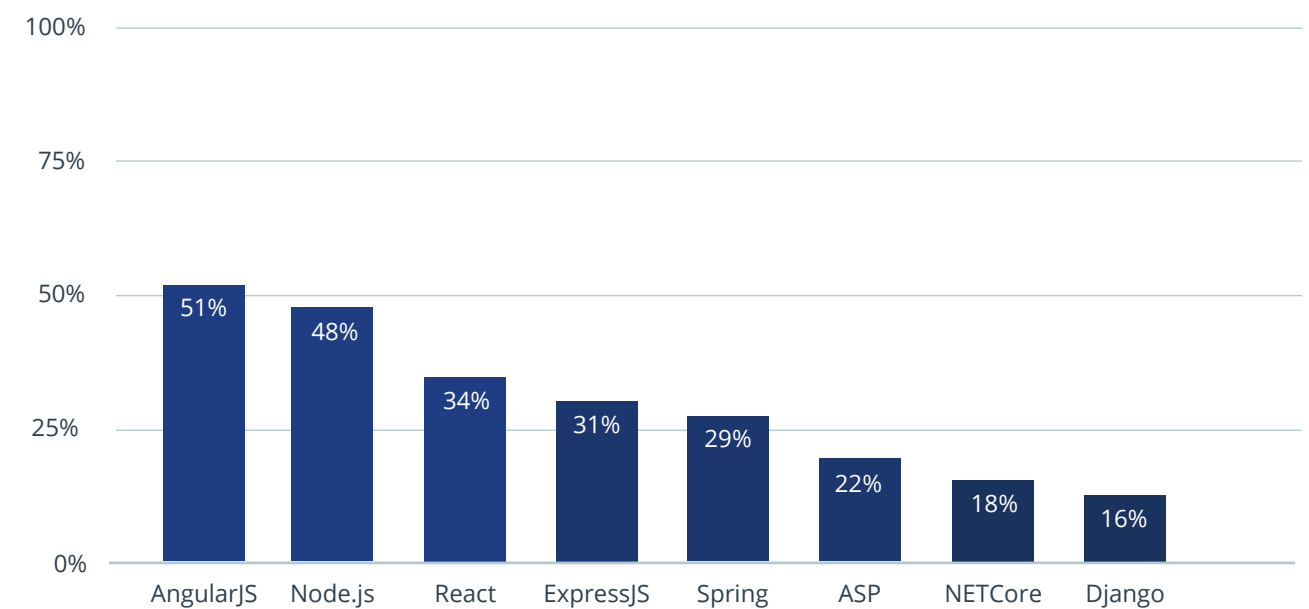○ **Strong product owner:** passionate about the product

In Their Stack
Most common competencies

Full-Stack Developers: Languages They Know

Language	%
CC	89%
Javascript	71%
Java	57%
C++	50%
Python	47%
#	40%
PHP	40%
Ruby	40%

Full-Stack Developers: Frameworks They Know

Framework	%
AngularJS	51%
Node.js	48%
React	34%
ExpressJS	31%
Spring	29%
ASP	22%
NETCore	18%
Django	16%

Source: 2018 Developer Skills Report

HackerRank Checklist
DevOps Specialist

Expertise

- ○ **Has experience in a related technical field**
- ○ **Track record of successful system monitoring and reporting**
- ○ **Adaptable, comfortable with learning new technologies on the fly**
- ○ **Employs a "work smarter, not harder" attitude within their work**
- ○ **Comfortable overseeing maintenance of big data**
- ○ **Experience building server environments**
- ○ **Comfortably with production level system and network monitoring**

Team Compatibility

- ○ **Familiar with your team's development methodology**
- ○ **Capable of advocating for the long-term needs of the system**
- ○ **Collaborative and team-oriented**
- ○ **Composed and organized in all scenarios**
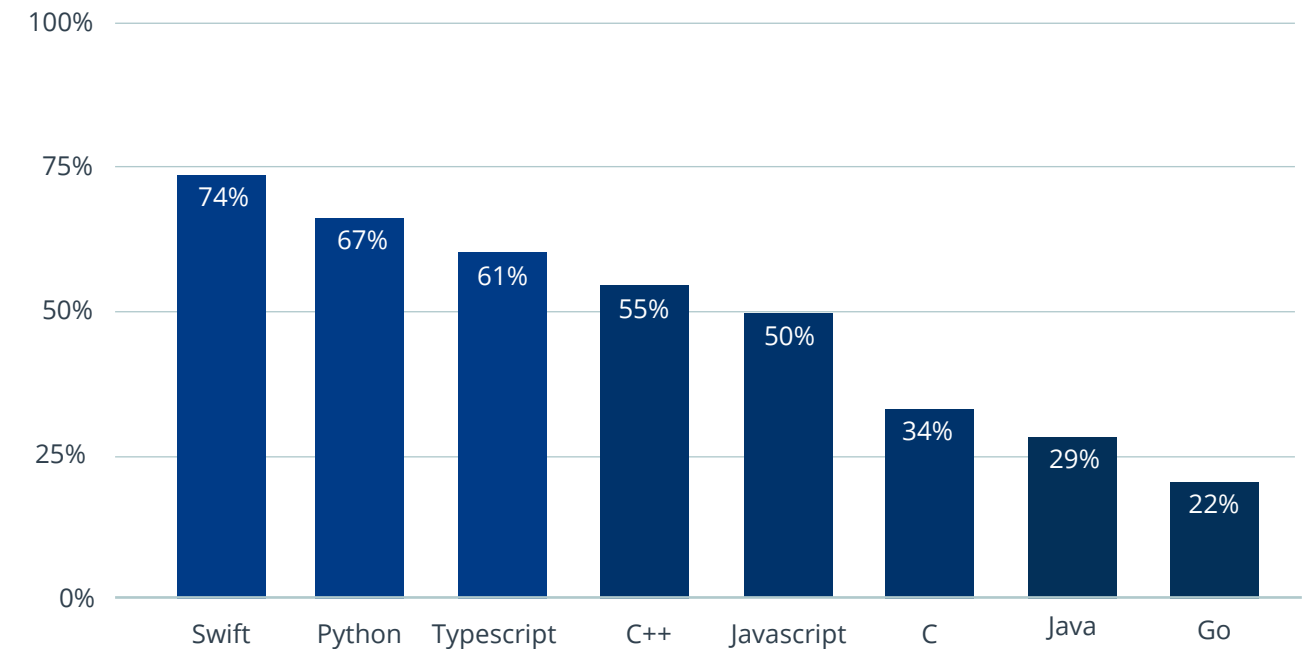- ○ **Strong leadership qualities**

Soft Skills

- ○ **Self-directed, timely, and proactive**
- ○ **Willing to work on the "behind the scenes" side of development**
- ○ **Strong interpersonal communication skills**
- ○ **Eager sense of curiosity, with strong problem-solving skills**
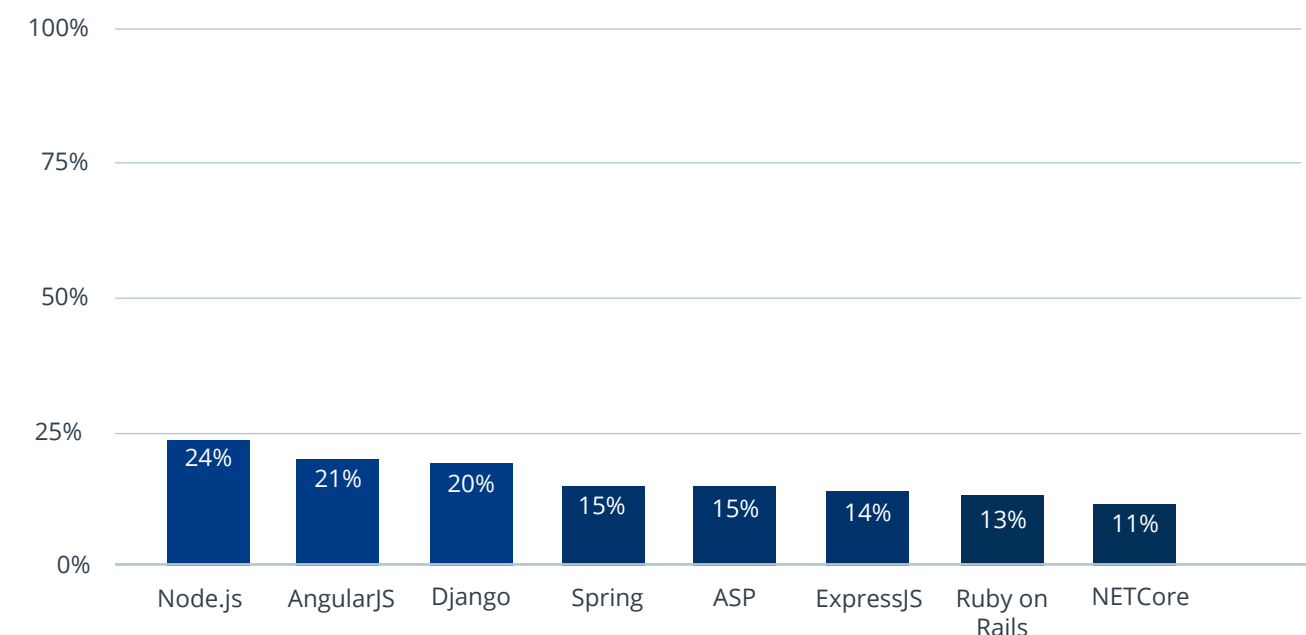- ○ **Strategic decision-maker**

In Their Stack
Most common competencies

DevOps Specialists: Languages They Know

Language	Percentage
Swift	74%
Python	67%
Typescript	61%
C++	55%
Javascript	50%
C	34%
Java	29%
Go	22%

DevOps Specialists: Frameworks They Know

Framework	Percentage
Node.js	24%
AngularJS	21%
Django	20%
Spring	15%
ASP	15%
ExpressJS	14%
Ruby on Rails	13%
NETCore	11%

Source: 2018 Developer Skills Report

04 Resource Library

If you're looking to dive even deeper into any of the roles we covered, check out some of the resources below. They'll give you an even more in-depth understanding of what goes into each role:

Tech News & Views

- **HackerNews:** Developer focused tech news and opinions
- **Slashdot:** Skim-friendly tech news snippets
- **HackerNoon:** Tech news and trends, covered by 7,000+ contributors

Developer Discussion

- **/r/devops:** User submitted thoughts and discussion on DevOps as a discipline
- **/r/programming:** One of the biggest developer subreddits, great for finding trending topics
- **/r/webdev:** High-level discussions amongst developers of multiple disciplines
- **Quora: Software Engineering:** Loads of job-focused questions, asked by and answered by developers

Other Resources

- **2018 Tech Recruiting Report:** The state of hiring alignment, as told by hiring managers and recruiters
- **2018 Developer Skills Report:** Developer trends for 2018, based on input from over 39,000 developers

Conclusion

Though each role is unique, a technical team is more than the sum of its parts. There's no doubt that expertise is the most important prerequisite for any candidate—but team compatibility and relevant soft skills will help ensure they're a long term fit. By understanding how each role functions, and how these roles work together as a unit, you're one step closer to finding the right fit for your team.

We'd encourage you to use this guide not only in your sourcing, but also when meeting with hiring managers. Each team is unique, and consequently, so is each role. Aligning on each point will help to streamline the hiring process down the line—and will make sure you can snag the perfect candidate when you do find them.

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