Recruiter Cheat Sheet: How to Assess Technical Roles
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](https://www.hackerrank.com/)

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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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.
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

<table>
<thead>
<tr>
<th>Language</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Python</td>
<td>61%</td>
</tr>
<tr>
<td>Java</td>
<td>55%</td>
</tr>
<tr>
<td>Javascript</td>
<td>50%</td>
</tr>
<tr>
<td>C++</td>
<td>48%</td>
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<tr>
<td>Typescript</td>
<td>40%</td>
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<tr>
<td>C</td>
<td>39%</td>
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<tr>
<td>PHP</td>
<td>23%</td>
</tr>
<tr>
<td>C#</td>
<td>18%</td>
</tr>
</tbody>
</table>

Source: 2018 Developer Skills Report
HackerRank Checklist
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

<table>
<thead>
<tr>
<th>Language</th>
<th>Percentage</th>
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<tbody>
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<td>Typescript</td>
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<td>C++</td>
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<tr>
<td>Swift</td>
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<tr>
<td>Java</td>
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<tr>
<td>C</td>
<td>19%</td>
</tr>
<tr>
<td>PHP</td>
<td>19%</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Language</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
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<td>Swift</td>
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<tr>
<td>TypeScript</td>
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</tr>
<tr>
<td>Python</td>
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<tr>
<td>C++</td>
<td>55%</td>
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<tr>
<td>Javascript</td>
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<tr>
<td>C#</td>
<td>27%</td>
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<tr>
<td>Pascal</td>
<td>26%</td>
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<tr>
<td>Java</td>
<td>24%</td>
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</tbody>
</table>

Data Engineers: Frameworks They Know

<table>
<thead>
<tr>
<th>Framework</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Django</td>
<td>23%</td>
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<tr>
<td>AngularJS</td>
<td>23%</td>
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<tr>
<td>NodeJS</td>
<td>22%</td>
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<tr>
<td>Spring</td>
<td>19%</td>
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<tr>
<td>React</td>
<td>13%</td>
</tr>
<tr>
<td>ExpressJS</td>
<td>12%</td>
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<tr>
<td>NETCore</td>
<td>10%</td>
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<tr>
<td>ASP</td>
<td>8%</td>
</tr>
<tr>
<td>Struts</td>
<td>8%</td>
</tr>
</tbody>
</table>

Source: 2018 Developer Skills Report
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.
Assessing Junior vs. Senior Developers

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.

- **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

**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**
  - 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

Front-End Developers: Frameworks They Know

Source: 2018 Developer Skills Report
HackerRank Checklist

Back-End Developer

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

In Their Stack

Most common competencies

Back-End Developers: Languages They Know

<table>
<thead>
<tr>
<th>Language</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
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<td>Javascript</td>
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<tr>
<td>CC</td>
<td>60%</td>
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<tr>
<td>Java</td>
<td>58%</td>
</tr>
<tr>
<td>C++</td>
<td>52%</td>
</tr>
<tr>
<td>Python</td>
<td>47%</td>
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<tr>
<td>#</td>
<td>30%</td>
</tr>
<tr>
<td>PHP</td>
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</table>

Source: 2018 Developer Skills Report

Back-End Developers: Frameworks They Know

<table>
<thead>
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<th>Framework</th>
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<tbody>
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<td>Spring</td>
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<td>Node.js</td>
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<tr>
<td>AngularJS</td>
<td>21%</td>
</tr>
<tr>
<td>Django</td>
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</tr>
<tr>
<td>JSF</td>
<td>13%</td>
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<tr>
<td>ASP</td>
<td>13%</td>
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<tr>
<td>Struts</td>
<td>12%</td>
</tr>
<tr>
<td>ExpressJS</td>
<td>10%</td>
</tr>
<tr>
<td>NETCore</td>
<td>10%</td>
</tr>
</tbody>
</table>

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

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**In Their Stack**

**Most common competencies**

**Full-Stack Developers: Languages They Know**

<table>
<thead>
<tr>
<th>Language</th>
<th>Percentage</th>
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<td>PHP</td>
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<td>Ruby</td>
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**Full-Stack Developers: Frameworks They Know**

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<td>Node.js</td>
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<td>React</td>
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<td>ExpressJS</td>
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<tr>
<td>Spring</td>
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<tr>
<td>NETCore</td>
<td>18%</td>
</tr>
<tr>
<td>Django</td>
<td>16%</td>
</tr>
</tbody>
</table>

*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

<table>
<thead>
<tr>
<th>Language</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
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<td>Python</td>
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<tr>
<td>Typescript</td>
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<td>Javascript</td>
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<td>C</td>
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<td>Java</td>
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<tr>
<td>Go</td>
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DevOps Specialists: Frameworks They Know

<table>
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<tbody>
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<td>AngularJS</td>
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</tr>
<tr>
<td>.NET Core</td>
<td>11%</td>
</tr>
</tbody>
</table>

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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