



INTERVIEW PREP

System Development Engineer

WHAT DOES A SYSDE DO AT AMAZON?

SysDEs build software to increase operational performance and developer agility. They are DevOps thought leaders in automation and infrastructure of a product or service. Working with customers to understand business impacts, SysDEs identify problems that could arise from technical decisions. They're proficient in a broad range of technologies (hardware, software, networking, operating systems) and how these interact with one another in complex systems. Writing code to fix bugs, automating tasks, implementing monitoring, and dealing with infrastructural components within the large scale systems they build, there is no ordinary day for SysDEs.

Want to become an Amazon System Development Engineer?
Let's walk through some helpful tips for the interview process.



How to prepare for a SysDE Interview:

1. Highlight your knowledge of software or infrastructure system design. Be able to design a system at a high level and be able to speak to performance tradeoffs and operational characteristics. This includes deployment methodologies and automation.
2. Research scalability concepts and technology (e.g caching, load balancing, non-relational databases and networking).
3. Be familiar with prominent languages, including the syntax of the language. Ultimately, pick the one you're most comfortable with and stick with it.
4. Write syntactically correct code— no pseudo code. Ensure it's scalable robust, and well-tested.
5. Use logical and maintainable code to build performant systems.
6. Be familiar with a range of system components including OS fundamentals (e.g. scheduling, memory management, file systems), networking protocols and storage technologies.

Technical tips

Be familiar and ready to solve in-depth technical questions on concepts like automation, scripting and scalable deployments methodologies (i.e Chef or Puppet). This will likely include qualifying requirements, checking edge cases and white boarding your solutions with our engineers. In-person interviews tend to be more in-depth than the types of questions asked during your phone interview.

Be prepared to discuss technologies listed on your resume. Examples may include your practical use of Python or storage technologies as technical competencies to solve technical problems. It is helpful to review the job description before your interview to align your qualifications against the job's specific requirements and responsibilities.

Visit highscalability.com or similar websites to brush up on scalable system technologies and building practical software-focused solutions. "System Design Interview – An insider's guide" is a recommended read.

White boarding

Write a list of requirements on the board, and keep asking questions. This should be the first thing you write out.

Be prepared to white board. Practice writing code and system design out by hand. Consider a scalable code or design before you begin drafting.

Keep the customer front of mind. Who is the customer, and what problem are you solving for them?

Dig for clarification. Your interviewer will not try to trick you. Questions may be intentionally vague to push your innovation.

Begin drawing a diagram once you've done enough digging to begin white boarding your system design solution. Start with shapes to represent different software components and data sources, and then arrows connecting them to show web services, APIs and interactions between components.

Know how your solution solves the problem. If you suggest technology to help solve, understand how that technology works.

Scaling is a critical component of software distributed design. Consider software components, how to store data, APIs, component relationships, and data flows. Keep this in mind when diagramming and designing your software systems.

Infrastructure plays a key role in the performance of software. Understand your technology choices, and how it may influence your design.

Operational performance of your design is important. How will you ensure this system is working at an acceptable level of performance? If a problem occurs, what will be involved to trouble shoot and resolve quickly? What are the possible points of failure and how can they be made more robust against failure?

Interact with your interviewer. You will be asked several questions related to design. Engage with your interviewer with necessary questions to complete the exercise.

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AMAZON IS AN EQUAL OPPORTUNITY EMPLOYER

