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Anthropic Infrastructure Software Engineer Interview Guide

Learn how to prepare for the Anthropic Infrastructure Software Engineer interview and get a job at Anthropic with this in-depth guide.

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Anthropic infra SWEs are focused on one of the most critical aspects of the generative AI space, namely, maintaining the performance and reliability of critical systems.

Anthropic stands alone as the AI company most focused on data security, ethics, and compliance.

Their interview process reflects their unique commitment to ethical AI, and they ask each candidate challenging questions about morality, safety, and transparency.

With a valuation of $350bn, Anthropic is one of the most valuable privately held companies in the world.

Below, we break down the complete infra SWE interview process at Anthropic for junior and senior candidates.

Interview Process

Anthropic’s Infrastructure Software Engineer interview process goes through the following stages:

1. **Recruiter screen(s):** 15-minute call(s) with a recruiter covering your background and interest in Anthropic
2. **Technical screen:** 55-minute assessment of technical skill using Replit or Codesignal, conducted remotely
3. **Onsite loop:** A set of five interviews, covering coding, behavioral fit, cultural fit, system design, and a deep dive into a project of your choice.

The screening stages will be completed remotely, but candidates have reported the other loop being either in person at Anthropic’s offices or remote, depending on the role and the candidate’s current location.

> **Note**
>
> We created this guide with direct input from Anthropic Infra SWEs. It reflects current interview practices and evaluation criteria used by Anthropic hiring teams.

Recruiter screen

This is a short, 15-minute call about the role and about your interest in Anthropic. In addition to information about your responsibilities, the recruiter will also want to know about your background in infrastructure maintenance and design.

Beyond this, they may also discuss the base pay and share documents with you that cover Anthropic’s culture and values. They will emphasize the importance of culture fit at Anthropic and encourage you to prepare for the behavioral and culture rounds accordingly.

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Recruiter Questions:

Why do you want to work at Anthropic? See question →

Tell me about your interest in AI. See question →

Note

Some of the job listings on Anthropic's site and recruitment pages are for general infrastructure positions, while others are team-specific. The general positions are part of a pipeline that routes you into an infra role you are suited for.

Technical phone screen

This 55-minute round will be broken down into 50 minutes for work and 5 minutes for questions and review. You'll be asked something that the infrastructure team works on directly, and more senior applicants will be expected to drive the discussion.

Using a collaboration tool like CodeSignal or Replit, you'll be tasked with extracting more AI performance out of a limited set of infrastructure, which measures your knowledge of approaches like input batching.

You'll be expected to discuss trade-offs, potential risks, and how you would handle scaling with limited compute. The question may not have a defined "correct" answer, and instead may be aimed at assessing your ability to design a novel approach and defend it.

Technical Phone Screen Questions:

Suppose your generative model needs to process very long inputs that exceed typical context limits. How would you approach managing or compressing that information effectively? See question →

How do you select input for modeling if there are features highly correlated with each other? See question →

How can we tell when a model needs to be refreshed? See question →

Onsite loop

Depending on your current location, this loop may be onsite or virtual, and it may be all in one day or broken into multiple loops. Each round is 60 minutes.

System design

Like the technical screen, this round will focus on a novel problem that requires you to work through infrastructural or computational constraints.

You might be asked to manage the distribution of a large file or set of files to a large number of machines, with limited input and output bandwidth. Your system will have to efficiently distribute the load across the machines and then allow them to share resources.

The questions will test your ability to maximize the use of available resources and work around constraints, as extracting greater performance from CPU/GPU clusters is critical for AI companies like Anthropic.

For more senior roles, you should discuss the trade-offs and risks of your approach, particularly regarding data security and compliance, as these are significant priorities for Anthropic.

System Design Questions:

Design a document processing pipeline. View 5 answers →

Design a file cache system. See question →

Design an agentic AI system that can autonomously adapt to new tasks. See question →

Coding

You might be given hints earlier in the process, either from the recruiter or other interviewers, about the sort of questions you'll be asked in this interview. Unlike system design, it will be a hands-on project, and you will be allowed to use resources like search engines or even AI tools to help you.

Despite the theme of infrastructure-specific questions, you shouldn't expect to necessarily deal with a standard infra or data structure and algorithm problem. You might be given a large set of files and asked to process them according to a set of transformation instructions.

This sort of problem is as much about your ability to research, identify, and execute on a new problem as it is about accessing and deploying libraries and tools you may not be intimately familiar with yet. As you ask questions and push further into the situation, the interviewer will be assessing how you adapt to a challenging or unexpected task.

If you can complete the task within the required time, the interviewer may change elements of the challenge, adding new constraints or asking you to make efficiency improvements.

Coding Questions:

You have a dataset comprising 1,000 avatar images and 100,000 user descriptions with associated avatar images. Create a model that recommends an image from a new set of 100,000 images for a user de... View 2 answers →

Design a web crawler. View 10 answers →

Given n houses in a line with money in each, find the maximum amount a robber can steal, without stealing from two adjacent houses. View 3 answers →

Project deep dive

Before this interview, you will be asked to prepare a short (~15-25 minute) presentation about a past project to show to the interviewer. You should choose something relevant to Anthropic's focus areas (scale, security, efficiency) and that you had end-to-end ownership over.

As part of your preparations, think about the project's collaborative aspects as well as its technical side. Although domain knowledge is essential, you will also need to discuss extensively how you involved others, communicated your goals, and assessed personal and team performance.

Someone on the infrastructure team will conduct this interview, but you should view it as a hybrid of a technical and behavioral assessment. Don't be surprised when most of their questions are related to how you achieved organizational buy-in, advocated for more resources, or managed. cross-functional work

Don't be afraid to speak to any issues, including interpersonal conflicts, difficult trade-offs, or other challenging decisions. If there are aspects of the project you feel you could have handled better, showing a willingness to acknowledge this and improve is also good.

Behavioral

Following the themes of accountability, collaboration, and self-assessment, this interview will focus on your experience working on a team. Infrastructure work can sometimes feel different from the pace and goals of product development, but successful infra SWEs can communicate effectively across these gaps.

Because the focus of modern AI development depends on continually adding computational resources and making the most efficient use of infrastructure, infra SWEs will need not only technical skills but also experience in cross-functional communication.

Another essential skill is conflict resolution. As an infra expert, you may be the point person who has to push back against the most aggressive timelines and goals, so being able to manage, de-escalate, and work around conflict is critical.

Behavioral Questions:

Tell me about a time when you faced a conflict while on a team. View 4 answers →

Tell me about a time when you received negative feedback and how you handled it. View 9 answers →

Describe an experience working in a cross-functional team. See question →

Cultural

Some view this interview as the most difficult, as the interviewers tend to ask very challenging questions about ethics and mortality. Anthropic’s value proposition is based on their ethical approach to AI development and adoption, and it wants their team to buy in.

The recruiter will have sent you some documents about Anthropic’s approach, and you can prepare by applying these ethical questions to your past career. Think of times when you stopped to reconsider the personal or societal effects of your work, or when your team dealt with an ethical grey area.

This interview can be uncomfortable for people, as the subject matter is very personal, and because ethics and morals are not typical interview topics. You may also be prompted to criticize Anthropic’s stated values or choices, and to offer your own assessment of them.

As with other interviews, you will also need to discuss your approach when justifying decisions to others on your team. If you made a difficult choice, how did you explain it to others and get them to buy in or at least understand your viewpoint?

For infra SWEs, they’ll also ask you about your approach to security and safety. For example, if you are asked to cut corners and bypass security tests to meet a deadline, how would you handle it? Being willing to push back, whether or not you achieved the desired result, is vital at Anthropic.

Cultural Questions:

What are the risks of assuming LLMs think or feel like humans? See question →

What are the ethical risks of deploying agentic AI systems in high-stakes environments? See question →

What are the challenges in ensuring generative AI doesn’t produce harmful or unsafe content, and how would you address them? See question →

If you discovered that your model was exposing sensitive data from its training set, what would you do next? See question →

Common Mistakes

Technical/infrastructure mistakes

- A lack of experience or practice on questions that involve AI and LLM security

and safety best practices
- Not asking questions, communicating, or, for more senior infra roles, driving the conversation
- Not preparing for the specific issues around AI infrastructure, particularly computation constraints
- Not taking scale into account when working out an answer
- Making decisions in search of a “right” answer, rather than one with tradeoffs and downsides
- Focusing on one technical subject (DSA, multithreading, etc.) and problem-solving rather than research skills

Culture and ethics mistakes

- Not thinking through the implications of automation, LLM hallucinations, resource usage, and other ethical problems endemic to AI
- Failing to describe a successful approach to communication, conflict resolution, and cross-functional work
- Being unwilling or unable to accept feedback
- Approach your work with an ego that makes you resistant to alternative approaches
- Struggling with discomfort and disagreement, particularly on ethically complex or difficult topics
- Not understanding or speaking up about the risks of building too fast
- Not spending enough time studying Anthropic’s stated values and comparing them to your past work

Interview Prep

Think like you’re already on the team. As you go through the interviews, you’ll be given novel problems that are directly related to Anthropic’s infrastructure work. While some of the technical assessments involve more general questions, they will focus on working within constraints, handling scale, and dealing with edge cases.

Along these lines, you should also understand that they aren’t always looking for a pristine solution, but rather for your approach, acknowledgement of trade-offs, and how you handle security and safety issues.

Take the cultural round seriously. Anthropic has a track record of rejecting highly skilled domain experts who do not align with its ethics and culture. They’re unafraid to have high standards and slow down when it’s ethically necessary, and that includes hiring.

For Anthropic, the transformative potential of AI is both a responsibility and an opportunity. Even if you haven’t had chances to understand the implications of this, taking some time to think about it is critical for the cultural and behavioral rounds.

Be prepared for surprises. Anthropic is still very much a startup in some ways, and they aren’t afraid to change up their internal processes or lean into the more uncomfortable aspects of their work.

For you, this might mean a technical or ethical question that doesn’t have an easy answer, or requires you to do more research than hands-on work.

They want people who won’t shrink away or struggle in these situations, as their work is on the cutting edge of a new discipline and often requires brand-new ideas and a willingness to work outside one’s comfort zone.

About the Role

What do you focus on as an infra SWE at Anthropic?

- **Work around limitations:** Anthropic’s tools, like all AI-focused work, depend on engineers finding novel ways to do more with less, and to handle AI usage on a global scale.
- **Contribute to the AI field:** As one of the leading AI companies, Anthropic’s

engineers contribute to the broader development of AI-focused technologies, and their work can include publishing research and testing new approaches.
- **Ethics are part of the value proposition:** Anthropic stands in contrast to other AI companies through its outward embrace of deliberate, ethically-informed decision-making. This impacts everything, including key infrastructure decisions and methods.

Core Responsibilities

Anthropic's Infrastructure Software Engineers can have many different responsibilities, as they may be focused on a particular element, like pre-training, or on infra more generally. Here are some general expectations:

- Work on critical infrastructure components, like performance, reliability, and observability, all while ensuring these systems can operate at scale.
- Help create data pipelines, build dashboards, provision GPU clusters, and assist with all aspects of Anthropic's models and research tools
- Design, implement, and improve data security and compliance checks, and work to improve user and client privacy.
- Work cross-functionally on industry-leading AI research and development.

Compensation

Along with other leading AI companies, Anthropic infra SWEs earn some of the highest salaries and largest compensation packages in the world.

Average total compensation by level (packages will be higher for infrastructure specialists):

Senior Software Engineer: $550,000/yr

Lead software engineer: $671,000/yr

Job Requirements

Experience

Anthropic's infra SWE jobs require at least 7-10 years of infrastructure experience, especially for specialized roles (pre-training, data models, accelerator build, etc.).

As a new field, AI experience can be hard to come by, so Anthropic states that they do not require extensive LLM or AI work experience and notes that many of their current team members were new to AI when they started.

Education

Although they list a CS or other relevant advanced degree as desirable, it is not a requirement for infra SWE roles.

Much like AI experience, about half of their current team members have degrees, so they see a degree as more of a 'nice-to-have' than a necessity.

Resources

- Anthropic Careers Page
- Anthropic Engineering Blog
- Software Engineering Interview Prep
- Generative AI Interview Prep
- Anthropic Interview Questions
- Software Engineer Interview Questions

FAQs

How long does the Anthropic Infrastructure SWE application process take?

Because it involves multiple rounds and Anthropic is still a relatively new company, the process length can vary. Candidates report it taking between 1 to 4 months.

Where can I learn about Anthropic's culture and values?

They provide information on their site and careers page, and you'll also be given more in-depth documentation by the recruiter, which you should study prior to your interviews.

Does Anthropic have internships?

Anthropic does not offer internships at this time.

How long should I wait after a rejection before reapplying to Anthropic?

Their careers page states you should wait 12 months before reapplying. You can reapply earlier if you were rejected for a specific reason (unable to relocate, for example) and that has changed.

Does Anthropic offer remote work opportunities?

They allow hybrid work but require all full-time staff to come into the Bay Area office once a month. For new hires who are relocating, they allow temporary remote work and will help with relocation services.

Do I need to have AI experience to work at Anthropic?

Experience with AI and LLMs is helpful but not required to get a job at Anthropic.

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