

Mentors in Tech Role Overview

Are you targeting the right roles **for you** as you work to launch your tech career? Many Mentors in Tech students enter college aiming to become Software Development Engineers (SDEs), but are not aware that the tech industry offers a diverse range of career paths suited to different skills, interests, and prior work experiences.

This guide will introduce you to various tech career paths, helping you explore and start to prepare for many options outside of SDE. First select a role you are interested in learning more about, then watch the MinT mentors in those roles dive into what those roles are and what they do. Finally, discuss your insights with your mentors to help you decide whether the role aligns with your strengths, experiences and career goals, and how you can prepare to be a competitive candidate.

How to use this guide:

Before you meet: Pick a role to learn about with your mentors. Read the section for your selected role on your own, then watch the associated video to hear MinT mentors talk about their experiences and how to know if it's the right role for you. As you watch, take notes, write down keywords to look up, details you want to remember, and questions you want to discuss with your mentor.

During your mentor meeting: Use the meeting outline to spend about 30 minutes discussing the role with your mentor, your experiences, interests, and fit. Then search for job postings together and practice sample interview questions and answers.

After the meeting: If you decide to pursue jobs in this area, use the resource list at the end of each section to prepare the role and continue building your knowledge to get ready to apply and interview for those roles.

Contents:

[Customer Success/Customer Support](#)

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[System/Database Administrator](#)

[Technical Program/Product/Project Management](#)

[User Interface/User Experience](#)

This MinT student module is made possible by a Career Connect Washington grant from the US Department of Labor.

Customer Success Engineer /Customer Support

Watch the video: <https://youtu.be/sGCwww-q4nc>

What are Customer Success and Customer Support?

Both roles work directly with customers who have already purchased the product or service and provide timely and useful communication to support customer satisfaction and retention.

Overview

Customer Success: This role primarily works with customers to ensure that their software or platform purchase has been successfully installed and implemented. Customer Success engineers may participate in the initial sales process and then become the customer's primary point of contact once the initial sale is completed to manage onboarding and user training. They may communicate proactively with the customer (for example, monitoring usage and suggesting enhancements) as well as reactively when the customer experiences issues attributed to the software.

Customer Support: This role mainly responds to customer issues or questions by ensuring the customer feels heard while researching and identifying potential solutions. They receive, prioritize, attempt to reproduce bugs, and escalate as needed to resolve the issue. They may also create and/or contribute to software documentation and customer training/onboarding materials.

Common job responsibilities for both roles (entry level):

- Drive customer satisfaction and retention (and reduce customer churn) by providing proactive and reactive support to customers
- Respond quickly to customer issues and troubleshoot issues
- Advocate internally for customer needs
- Escalate out of scope issues appropriately while ensuring consistent customer communication

Video Guide

Video contents:

- What do these roles do? – 00:05
- Key responsibilities and a typical day – 03:54
- Helpful previous experiences/skills – 11:53
- Interview guidance – 15:52
- Why did you choose this role and what's unique about it – 12:39
- Work/life balance, misconceptions, impact and challenges – 25:10
- Potential career paths from entry level – 35:35

Meeting Outline

Before your meeting: Watch the video and take notes about keywords to look up, details you want to remember, and questions to discuss. Write down interview questions to practice together.

During your meeting:

- (10 minutes) Ask your mentor:
 - Have they been in either role? If so, what was their experience?
 - How have they interacted with these roles? How was the work distributed?
 - How are these customer-facing roles defined in their current or past workplaces? Are they part of the developer team, sales team, or a separate function?
 - Based on my strengths and interests, do they think I would be a good fit for this role? Why or why not?
- (10 minutes) Share your screen with your mentor and search for Customer Success and/or Support roles posted on LinkedIn. What common job responsibilities and requirements do you see? Do the responsibilities seem interesting to you? Which requirements do you already possess, and which do you need to focus on building?
- (10 minutes) Role-play typical Customer Success/Support interview questions with your mentor. Work together to draft an outline of each response, then practice asking and answering multiple times to get comfortable.
- (5 minutes) Based on what you learned in the video, write 3 questions that you would ask during an interview.

Use These Resources

Average pay at entry level (sources: Levels.fyi, salary.com):

- Customer Success: base pay \$41K-\$94K, average \$62K in Seattle
- Customer Support: base pay \$41K-\$59K, average \$44K in Seattle

Video:

- [MinT mentor interview: Customer Success/Customer Support](#)

Data/Business Analyst

Watch the video: <https://youtu.be/N0NTNxAA8D4>

What is a Data or Business Analyst?

Overview

Data Analyst or Business Analyst roles use data to help an organization make sound business decisions by identifying trends, noticing and investigating anomalies, and answering questions about what the organization should do next.

Some employers (like Alex's) may assign these responsibilities to a Data Scientist role that supports current business operations or analyzing nearer-term business decisions. Other employers (for example, Microsoft) hire PhDs for research-focused Data Scientist roles. Read each job description carefully to understand the role's requirements and responsibilities.

Common job responsibilities (entry level):

- Extract and analyze data to determine business performance
- Present data in the appropriate way for each audience, for example building dashboards or presentations to communicate at the right time and level for audience needs
- Communicate across teams and roles to anticipate and deliver on data needs

Video Guide

The video features two mentors who speak about their experiences as Data/Business Analysts.

Video contents:

- What does a Data or Business Analyst do – 00:04
- Key responsibilities and a typical day – 01:54
- What do you like about the role, traits/previous experiences might be a fit and what might draw someone away from this role – 06:44
- What helps you stand out in resume review and interviews – 18:00
- Misconceptions about Data/Business Analyst roles and career paths – 33:21

Meeting Outline

Before your mentor meeting: Watch the video and write down keywords to look up, details you want to remember, and questions to discuss. Write down interview questions to practice together.

During your meeting:

- (10 minutes) Ask your mentor:
 - Have they been in this type of role? If so, what was their experience?
 - How have they interacted with these roles? How was the work distributed?
 - Who owns data analysis in their current or past workplaces? Are these roles part of the core developer team or separate?
 - Based on my strengths and interests, do they think I would be a good fit for either or both of these roles? Why or why not?

- (10 minutes) Share your screen with your mentor and search for Data and/or Business Analyst roles posted on LinkedIn. Use a combination of keywords for the most inclusive results (some examples: SQL, Python, R, predictive, “data analysis”, modeling). What common job responsibilities and requirements do you see? Do the responsibilities seem interesting to you? Which requirements do you already possess, and which do you need to focus on building? Who can you connect with through LinkedIn to help you understand how accurately the job descriptions reflect the actual work?
- (10 minutes) Role-play common interview questions with your mentor. Work together to draft an outline of each response, then practice asking and answering multiple times to get comfortable.
- (5 minutes) Based on the suggestions in the video, design and write down 3 questions that you would ask during an interview.

Glossary

GRC: Stands for Governance, Risk, and Compliance. An organizational strategy that is used to ensure that data/information is accurate and managed securely.

CISSO: Stands for Certified Information Systems Security Officer. One of several cybersecurity-related certifications targeted to individuals seeking work in information security.

Use These Resources

Books:

- [*The Visual Display of Quantitative Information*](#) by Edward Tufte
- [*Storytelling with Data: A Data Visualization Guide for Business Professionals*](#) by Cole Nussbaumer Knaflic

Articles/Websites:

- [CompTIA Career Pathway](#) (to identify potential certifications if desired)

Average pay at entry level (sources: Levels.fyi, salary.com):

- Data Analyst: base pay \$60K-\$120K depending on location across US, average \$79K in Seattle
- Business Analyst: base pay \$42K-\$150K depending on location and employer across US, average \$95K in Seattle

Videos:

- [MinT mentor interview: Data/Business Analyst](#)

DevOps/Site Reliability Engineer

Watch the video: <https://youtu.be/ihWMk694CEk>

What are DevOps and Site Reliability Engineering (SRE)?

Overview

DevOps and Site Reliability Engineering roles use tools and processes to keep software or websites running smoothly. They generally use scripting to create automated processes that monitor code changes for potential issues, look for ways to improve software/site efficiency, and respond to incidents when something breaks.

Common job responsibilities (entry level):

- Bridge the gap between development and operations teams to ensure software or sites are running smoothly
- Implement security measures and backups/recovery plans
- Automate recurring tasks and tools to monitor system/site performance
- Partner with development stakeholders to plan for releases
- Respond to issues with root cause analysis, troubleshooting, and new procedures to prevent similar incidents

Video Guide

The video features two mentors who speak about their experiences as DevOps/Site Reliability Engineers.

Video contents:

- What are DevOps and SRE – 00:05
- Key responsibilities and a typical day – 3:01
- Traits/previous experiences might be a fit – 19:56
- What mentors like and what might draw someone away from this role – 27:55
- Keywords to search for roles – 36:29
- What helps you stand out in interviews – 38:59
- Career paths – 45:45

Meeting Outline

Before your mentor meeting: Watch the video and write down keywords to look up, details you want to remember, and questions to discuss. Write down interview questions to practice together.

During your meeting:

- (10 minutes) Ask your mentor:
 - Have they been in this type of role? If so, what was their experience?
 - How have they interacted with these roles? How was the work distributed?
 - Who owns DevOps/site reliability in their current or past workplaces? Are these roles part of the core developer team or separate?

- Based on my strengths and interests, do they think I would be a good fit for this role? Why or why not?
- (10 minutes) Share your screen with your mentor and search for DevOps and/or SRE roles posted on LinkedIn. Use a combination of keywords for the most inclusive results (some examples: scripting, PowerShell, Linux, CI/CD, automation, Kubernetes). What common job responsibilities and requirements do you see? Do the responsibilities seem interesting to you? Which requirements do you already possess, and which do you need to focus on building? Who can you connect with through LinkedIn to help you understand how accurately the job descriptions reflect the actual work?
- (10 minutes) Role-play common interview questions with your mentor. Work together to draft an outline of each response, then practice asking and answering multiple times to get comfortable.
- (5 minutes) Based on the suggestions in the video, design and write down 3 questions that you would ask during an interview.

Glossary

Continuous Integration/Continuous Delivery or Development (CI/CD): Practices that seek to make the software development process run more efficiently by automating testing and validation of new code and appropriate checks before deployment.

Directly Responsible Individual (DRI): Team member who is accountable (“on call”) for software or site availability and health, and the first responder when an incident occurs. Some employers rotate this role around the team so that each member takes a turn to be the first alerted and responsible for incident management.

Software Deployment Process (SDP): Process by which software moves from development to testing and production environments without disrupting functionality or the user experience.

Use These Resources

Books:

- [How Google Tests Software](#) by James Whittaker

Average pay at entry level (sources: Levels.fyi, salary.com, payscale.com):

- DevOps Engineer: base pay \$60K (Greensboro NC)-\$139K (New York NY) depending on employer and location across US, average \$89K in Seattle
- Site Reliability Engineer: base pay \$60K (Los Angeles CA)-\$137K (Seattle WA) depending on employer and location across US, average \$125K in Seattle

Videos:

- [MinT mentor interview: DevOps/Site Reliability Engineer](#)
- [MinT career panel workshop \(recorded April 2024\): Tech Recruiter, Site Reliability/DevOps, Product/Program Management](#)

Sales Engineering/Technical Account Manager

Watch the videos: [Part 1 \(is this a fit?\)](#), [Part 2 \(getting the job\)](#)

What are Sales Engineer and Technical Account Manager (TAM) roles?

Overview

Sales Engineer and TAM roles fall under the umbrella of technical sales, which acts as the front door to the organization. Sales Engineers mainly interact with customers prior to a sale to explain the product, perform product demonstrations, and advise on technical pre-sale customer questions. TAMs mainly interact with customers post-sale to oversee implementation and help customers get the most value from their purchase through training, recommendations, and proactive check-ins.

Common job responsibilities (entry level):

- Build knowledge of products and support the sales team through the sales cycle
- Represent the business to current and potential customers
- Build productive customer relationships as you present product demos, provide technical expertise, and answer questions

Video Guide

The video features three mentors who speak about their experiences in technical sales roles. Note that their respective experiences in different size organizations (small, mid-sized, and enterprise businesses) result in very diverse perspectives.

Video contents:

- Part 1:
 - Role overview and key responsibilities – 0:05
 - Typical role – 10:21
 - What do you enjoy/not enjoy – 18:17
 - Misconceptions about tech sales, work/life balance – 30:36
 - Your career path – 41:54
- Part 2:
 - Helpful experiences/skills for sales – 0:05
 - Standing out in interviews – 15:37
 - Potential career paths and final thoughts – 29:15

Meeting Outline

Before your mentor meeting: Watch the video and write down keywords to look up, details you want to remember, and questions to discuss. Write down interview questions to practice together.

During your meeting:

- (10 minutes) Ask your mentor:
 - Have they been in a tech sales role? If so, what was their experience?

- How have they interacted with these roles? How was the work distributed?
- Who owns sales in their current or past workplaces? How do sales professionals interact with the core developer team?
- Based on my strengths and interests, do they think I would be a good fit for this role? Why or why not?
- (10 minutes) Share your screen with your mentor and search for Sales Engineer and TAM roles posted on LinkedIn. Use a combination of keywords for the most inclusive results (some examples: pre-sales, customer relationship manager). What common job responsibilities and requirements do you see? Do the responsibilities seem interesting to you? Which requirements do you already possess, and which do you need to focus on building? Who can you connect with through LinkedIn to help you understand how accurately the job descriptions reflect the actual work?
- (10 minutes) Role-play common interview questions with your mentor. Work together to draft an outline of each response, then practice asking and answering multiple times to get comfortable.
- (5 minutes) Based on the suggestions in the video, design and write down 3 questions that you would ask during an interview.

Glossary

B2B vs. B2C: B2B is business-to-business, B2C is business-to-consumer. B2B companies sell products or services that are used by other companies, e.g. servers. B2C companies sell direct to consumers.

Sales motion: the structured, standardized steps that a sales team takes to identify potential clients and guide them through the sales cycle

Use These Resources

Books:

- [*The Art of Public Speaking*](#) by Dale Carnegie

Average pay at entry level (sources: Levels.fyi, salary.com, payscale.com):

Sales roles often offer a different pay structure than other technical roles, with a larger emphasis on potential bonus based on the amount of revenue you and the sales team helped bring to the company. As a result, some companies may offer a lower base pay, but a higher potential bonus which could result in higher overall compensation.

- Sales Engineer: base pay \$55K (Chandler AZ)-\$133K (Los Angeles CA) depending on employer and location across US, average \$87K in Seattle
- Technical Account Manager: base pay \$50K (Jacksonville FL)-\$105K (Bellevue WA) depending on employer and location across US, average \$124K in Seattle

Videos:

- MinT mentor interviews: [Part 1 \(is this a fit?\)](#), [Part 2 \(getting the job\)](#)

- [MinT career panel workshop \(recorded November 2022\): Tech Writer, SDET/Quality Engineer, Tech Sales](#)

Security/Network Engineer

Watch the video: <https://youtu.be/nXCtZkEAH0M>

What are Security and Network Engineering?

Security and network engineering roles focus on the IT infrastructure that powers an organization and the customers it serves. Network engineering is typically dedicated to the development, maintenance, and improvement of computer networking infrastructure. Security engineering focuses on preventing and addressing security vulnerabilities and monitoring cyber security threats. Both roles require knowledge of networking protocols, information technology, security, and troubleshooting. Related job titles include Cybersecurity Engineer, Network Security Engineer, and Computer Network Engineer.

Overview

Security Engineer: An engineer who works to design, build, deploy, maintain, and continually monitor IT infrastructure and software to protect against attacks, unauthorized access, and data leaks among other incidents. Necessary skills include effective communication with engineering and non-engineering partners, curiosity to stay informed on evolving security threats, and ability to troubleshoot/problem solve when an incident occurs.

Networking Engineer: An engineer who works to design, build, deploy, and maintain computer network infrastructure, including physical and/or cloud-based. Necessary skills can be similar to those of a Security Engineer, including effective communication with engineering and non-engineering colleagues, keeping your skills and knowledge current to keep solutions working and plan for future changes, and troubleshooting incidents as they happen.

Common job responsibilities (entry level):

- Help design and build secure software/IT systems:
 - Continually learn about potential security risks, hacker strategies, and/or new security technologies (more common for Security Engineer, but important for both)
 - Influence system design to incorporate security and reliability features into design and development
 - Ensure compliance with required security standards, industry regulations, and customer expectations
- Deploy and maintain IT infrastructure:
 - Continue to identify opportunities to make systems more efficient while preserving security and functionality
 - Implement upgrades and/or influence colleagues to invest in improvements based on research/environmental changes
- Plan for and respond to incidents:
 - Assess potential security risks and plan/practice response to possible incidents
 - Conduct penetration testing to identify vulnerabilities and essential updates to protect sensitive data and systems (more common for Security Engineer)

Video Guide

The video features three engineers with expertise in building and maintaining secure networks.

Video contents:

- What is security engineering? – 00:05
- Key responsibilities and a typical day – 02:28
- What traits/previous experiences might be a fit and what might draw someone away from this role – 08:58
- What helps you stand out in resume review and interviews – 21:28
- Highlights and career paths in security engineering – 32:38

Meeting Outline

Before your mentor meeting: Watch the video and write down keywords to look up, details you want to remember, and questions to discuss. Write down interview questions to practice together.

During your meeting:

- (10 minutes) Ask your mentor:
 - Have they been in this type of role? If so, what was their experience?
 - How have they interacted with these roles? How was the work distributed?
 - How is security and/or networking used in their current or past workplaces? Are these roles part of the core developer team or separate?
 - Based on my strengths and interests, do they think I would be a good fit for either or both of these roles? Why or why not?
- (10 minutes) Share your screen with your mentor and search for Security and/or Network Engineering roles posted on LinkedIn. Use a combination of keywords (for example, security and cybersecurity, network and networking) for the most inclusive results. What common job responsibilities and requirements do you see? Do the responsibilities seem interesting to you? Which requirements do you already possess, and which do you need to focus on building? Who can you connect with through LinkedIn to help you understand how accurately the job descriptions reflect the actual work?
- (10 minutes) Role-play common interview questions with your mentor (27:56 in the video). Work together to draft an outline of each response, then practice asking and answering multiple times to get comfortable.
- (5 minutes) Based on the suggestions from David and Josue (31:02 in the video), write down 3 questions that you would ask during an interview.

Glossary

Capture the flag: A security-focused activity often sponsored by an organization in which participants use cybersecurity skills to find information purposely hidden in systems.

Penetration testing/“pen testing”: A specific form of security testing in which a tester acts like a malicious hacker to simulate a cyberattack to identify vulnerabilities and potential ramifications.

Red/blue/purple team: In pen testing, red team testers simulate threats/attacks to test system security, while the blue team defends the system and tests response and mitigation plans. Purple teams may combine and analyze the data collected by red and blue teams to recommend improvements.

Security testing: A range of tests designed to evaluate, identify, and address security vulnerabilities and potential risks. Testing types may include security scanning, risk assessment, and security audits.

Triage: the act of prioritizing tasks/activities in order of urgency, time to complete, or other metric as determined by the team/leadership

White hat hacker: White hat or ethical hackers are generally authorized by an organization to conduct security/pen testing and identify vulnerabilities that lead to stronger security and protect against malicious (black hat) hackers. Neutral (gray hat) hackers test and exploit vulnerabilities without the organization's permission, but typically report their findings to allow for fixes before malicious hacks can occur.

Use These Resources

Books:

- [*Computer Networking: A Top-Down Approach*](#) by James Kurose and Keith Ross
- [*Internet Routing Architectures*](#) by Sam Halabi
- [*Interconnections: Bridges, Routers, Switches, and Internetworking Protocols*](#) by Radia Perlman
- [*Network Warrior*](#) by Gary A. Donohue
- [*Security Engineering*](#) by Ross Anderson
- [*Confident Cybersecurity: How to Get Started in Cybersecurity and Futureproof Your Career*](#) by Dr. Jessica Barker

Articles/Websites:

- [Eleven Books Every Network Engineer Should Own](#) (resources.noodle.com)
- [CompTIA Career Pathway](#) (to identify skill progression for either role)
- [What is a Network Engineer?](#) (Indeed.com)
- [What is Security Architecture?](#) (Palo Alto Networks)
- [Security Engineer Job Description: Top Duties and Qualifications](#) (Indeed.com)

Average pay at entry level in **Seattle, WA** (sources: Levels.fyi, salary.com):

- Network Engineer: base pay \$84K, range \$76K-\$95K
- Security Engineer: base pay \$81K, range \$58K-\$105K

Videos:

- [MinT mentor interview: Security/Network Engineer](#)

Software Design Engineer

Watch the video: <https://youtu.be/2dQYHaJfly0>

What is a Software Design Engineer (SDE)?

Overview

An SDE uses all their skills to create software, platforms, and products. This is the umbrella role that comes to mind for most students in CS. This role also comes with many similar sounding titles including software engineer, developer, application engineer etc. The role most commonly includes designing and creating or improving a software product, but it can also include investigating bugs, migrating to new platforms or databases, or learning new languages or tools to keep up with industry trends.

Common job responsibilities (entry level):

- Design, implement, test, and integrate technical features
- Collaborate with engineers and other stakeholders
- Review existing code and update as necessary to prevent or fix bugs
- Use unit tests to ensure code functions as intended
- Document your work for consistency and future reviewers

Video Guide

The video features two mentors who speak about their experiences as SDEs.

Video contents:

- What does an SDE do, typical day – 0:04
- Misconceptions about the SDE role – 8:09
- Traits/previous experiences that might be a fit – 11:40
- What might draw someone away from this role – 14:31
- How to stand out in resume review and interviews – 18:21
- Career paths – 29:41

Meeting Outline

Before your mentor meeting: Watch the video and write down keywords to look up, details you want to remember, and questions to discuss. Write down interview questions to practice together.

During your meeting:

- (10 minutes) Ask your mentor:
 - Have they been in this type of role? If so, what was their experience?
 - How have they interacted with SDEs? If the mentor was not an SDE at the time, how was the work distributed?
 - Who owns development in their current or past workplaces?
 - Based on my strengths and interests, do they think I would be a good fit for this role? Why or why not?

- (10 minutes) Share your screen with your mentor and search for SDE roles posted on LinkedIn. Use a combination of keywords for the most inclusive results (some examples: software engineer, software development engineer, developer). What common job responsibilities and requirements do you see? Do the responsibilities seem interesting to you? Which requirements do you already possess, and which do you need to focus on building? Who can you connect with through LinkedIn to help you understand how accurately the job descriptions reflect the actual work?
- (10 minutes) Role-play common interview questions with your mentor. Work together to draft an outline of each response, then practice asking and answering multiple times to get comfortable.
- (5 minutes) Based on the suggestions in the video, design and write down 3 questions that you would ask during an interview.

Glossary

Pair programming/pairing: coding with a partner at one computer, where one person types while the other guides and/or refines.

Pull request: formal request to merge code changes into a different branch, which allows collaborators to review the changes before integrating into the codebase.

Tech debt: the future consequences of building software or systems using shortcuts that will require more fixes later, or the impact of delaying necessary work or updates. In other words, the work required later because of the solution selected today.

Use These Resources

Books and websites:

- [Cracking the Coding Interview](#) by Gayle Laakmann McDowell
- [GitHub blog](#)

Average pay at entry level (sources: Levels.fyi, salary.com, payscale.com):

- Base pay \$77K-\$93K depending on employer and location across US, average \$92K in Seattle

Videos:

- [MinT mentor interview: SDE](#)
- [MinT Ask Us Anything workshop featuring mentors \(recorded May 2024\): Software Engineer, Tech Writer, Product/Program Management](#)

Software Developer in Test/Quality Assurance

Watch the video: <https://youtu.be/68Gk7BES22w>

What is SDET/QA?

Both the SDET and QA roles take a high-level view of the product and advocate for the end user/customer. They think about things like how the customer will use the software, what errors and/or unique circumstances may prevent the software from working as intended, and what fixes the developers must make to create a high-quality customer experience. Smaller employers may use SDET, QA, and similar job titles somewhat interchangeably, so as you search for jobs, read each description carefully to be clear on the required skills and responsibilities for that position. Depending on the specific role, responsibilities, and scope, QA may be a steppingstone into the SDET profession.

Overview

SDET (Software Development Engineer in Test): An engineer who designs, develops, and implements testing automation and test cases to help deliver high-quality software. Responsibilities include understanding product requirements and customer needs and usage, creating testing plans, writing/implementing code to test software, finding bugs and identifying root causes, and communicating with colleagues to prioritize fixes and recommend consistent practices to avoid similar bugs in the future.

Quality Assurance (QA): QA roles include QA Engineer and QA Analyst. In both QA roles, the employee works with test cases to identify functional and user experience issues, and partners with the development team to prioritize and address those issues. A QA Engineer typically creates testing plans including designing test cases and scenarios. They help implement the plan by writing and deploying automated test scripts. A QA Analyst is more likely to use manual testing to uncover issues.

You may also encounter the title “Software Test Engineer.” This role is similar to QA Engineer, with a focus on manual testing and writing test cases instead of writing code. However, each company may have different responsibilities for these roles.

Common job responsibilities for SDET and QA roles (entry level):

- Plan to evaluate software for errors and stability:
 - Identify software requirements, develop test plans, define test coverage and product readiness
 - Plan, schedule, and implement testing projects (automated and/or manual depending on role)
- Implement the test plan:
 - Thoroughly test software and communicate issues with stakeholders
 - Implement and maintain automation scripts (more common for SDET and QA Engineer)
 - Debug scripts and identify system flaws (more common for SDET and QA Engineer)

- Research, develop, and maintain testing infrastructure tools and environments across multiple application platforms (more common for SDET)
- Report your results and advocate for fixes:
 - Identify issues (bugs and user experience problems), conduct root cause analysis, and collaborate with developers to prioritize fixes
 - Provide metrics, data analysis, and context from testing efforts to support business decisions that maintain or improve software quality

Video Guide

The video features two former SDETs, but their perspectives and guidance apply to QA roles as well.

Video contents:

- What is the SDET role? – 00:44
- Key responsibilities and a typical day – 01:40
- What recruiters/HMs are looking for (keywords for resume, previous experiences), what might draw someone away from this role, work/life balance – 06:33
- Why did you choose this role and what's unique about it – 12:39
- What helps you stand out in resume review and interviews – 19:55
- Potential career paths from SDET – 26:15

Meeting Outline

Before your meeting: Watch the video and take notes about keywords to look up, details you want to remember, and questions to discuss. Write down interview questions to practice together.

During your meeting:

- (10 minutes) Ask your mentor:
 - Have they been in either role? If so, what was their experience?
 - How have they interacted with these roles? How was the work distributed?
 - How is the SDET/QA role used in their current or past workplaces and product lifecycle? Are they part of the developer team or separate?
 - Based on my strengths and interests, do they think I would be a good fit for this role? Why or why not?
- (10 minutes) Share your screen with your mentor and search for SDET and QA roles posted on LinkedIn. What common job responsibilities and requirements do you see? Do the responsibilities seem interesting to you? Which requirements do you already possess, and which do you need to focus on building?
- (10 minutes) Role-play typical SDET/QA interview questions with your mentor (23:15 in the video). Work together to draft an outline of each response, then practice asking and answering multiple times to get comfortable.
- (5 minutes) Based on the suggestions from Kristoffer and Jiunwei (24:50 in the video), write down 3 questions that you would ask during an SDET or QA interview.

Glossary

Performance (“perf”) testing: testing software to evaluate performance under different conditions, particularly at expected scale

PM: the Program Manager or Product Manager role. In the development setting, this role generally works closely with Developers and SDETs to ensure the timely creation, testing, and launch of software releases

Security testing: testing software to evaluate, identify, and address security vulnerabilities and potential risks

Triage: the act of prioritizing tasks/activities in order of urgency, time to complete, or other metric as determined by the team/leadership

Use These Resources

Books:

- [*Testing Computer Software*](#) by Cem Kaner, Jack Falk, Hung Quoc Nguyen
- [*Writing Solid Code*](#) by Steve Maguire
- [*How Google Tests Software*](#) by James Whittaker, Jason Arbon, Jeff Carollo
- [*How We Test Software at Microsoft*](#) by Alan Page, Ken Johnston, Bj Rollison

Articles:

- [What Is an SDET? \(Indeed\)](#)
- [What Is an SDET – Meaning, Role, and Pay \(Test Guild\)](#)
- [QA Engineer vs QA Analyst: What’s the Difference? \(Syntax Technologies\)](#)
- [QA Analyst vs. QA Engineer \(Mindful QA\)](#)

Average pay at entry level (sources: Levels.fyi, salary.com, payscale.com, ZipRecruiter.com):

- SDET: base pay \$65K-\$130K depending on employer and location across US, average \$80K-\$137K in Seattle
- QA Analyst: base pay \$49K-\$93K depending on employer and location across US, average \$50K-\$94K in Seattle
- QA Engineer: base pay \$35K-\$150K depending on employer and location across US, average \$65K-\$108K in Seattle

Videos:

- [MinT mentor interview: SDET/QA](#)
- [MinT Career Panel Workshop featuring SDET/Quality Engineer](#)
- [MinT workshop: Quality Engineering](#)
- [Product Gym YouTube channel](#)

System/Database Administrator

Watch the video: https://youtu.be/PloqS_JLZX0

What are System Administrator and Database Administrator roles?

Overview

System Administrator (sometimes called sysadmin) and Database Administrator (DBA) roles are IT professionals who manage the infrastructure of servers, operating systems, and/or databases that keep an organization operational and secure. Sysadmins focus on configuring, maintenance, and troubleshooting of servers and networks. DBAs design, implement, maintain, and secure databases.

Common job responsibilities (entry level):

- Contribute to planning, building, and maintaining systems for optimal efficiency and security
- Monitoring performance and troubleshooting/patching issues
- Script or program automated tasks
- Manage permissions and ongoing security

Video Guide

The video features a mentor who speaks about his experiences in Admin roles.

Video contents:

- What are System/Database Administrators – 00:05
- Typical day – 2:55
- Skills/previous experiences might be a fit – 11:47
- What might draw someone away from these roles – 17:16
- What helps you stand out in interviews – 21:08
- Career paths – 23:48

Meeting Outline

Before your mentor meeting: Watch the video and write down keywords to look up, details you want to remember, and questions to discuss. Write down interview questions to practice together.

During your meeting:

- (10 minutes) Ask your mentor:
 - Have they been in a System, Database, or related Administrator role? If so, what was their experience?
 - How have they interacted with these roles? How was the work distributed?
 - Who owns infrastructure administration in their current or past workplaces? How do Sysadmins/DBAs interact with the core developer team?
 - Based on my strengths and interests, do they think I would be a good fit for this role? Why or why not?

- (10 minutes) Share your screen with your mentor and search for System and Database Administrator roles posted on LinkedIn. Use a combination of keywords for the most inclusive results (some examples: sysadmin, DBA, Network Administrator, Security Administrator, Server Administrator). What common job responsibilities and requirements do you see? Do the responsibilities seem interesting to you? Which requirements do you already possess, and which do you need to focus on building? Who can you connect with through LinkedIn to help you understand how accurately the job descriptions reflect the actual work?
- (10 minutes) Role-play common interview questions with your mentor. Work together to draft an outline of each response, then practice asking and answering multiple times to get comfortable.
- (5 minutes) Based on what you've learned, design and write down 3 questions that you would ask during an interview.

Glossary

Change management: In IT, an approach to managing service and/or infrastructure changes that minimizes disruption to ongoing business

Relational vs. Non-relational database Administrators: Relational DBAs use SQL to manage data structured in tables while maintaining data integrity. Non-relational DBAs (also known as NoSQL DBAs) use a variety of data models and query languages to manage diverse and/or unstructured data.

Use These Resources

Average pay at entry level (sources: Levels.fyi, salary.com, payscale.com):

- System Administrator: base pay \$46K-\$64K (Philadelphia PA, different employer) depending on employer and location across US, average \$76K in Seattle
- Database Administrator: base pay \$73K-\$81K depending on employer and location across US, average \$75K-\$81K in Seattle

Videos:

- [MinT mentor interview: System/Database Administrator](#)

Technical Program/Product Management

Watch the video: <https://youtu.be/SREqBEEavXc>

What are Technical Program, Product, and Project Management roles?

In a technical organization, Program, Product, and Project Managers are dedicated to helping the organization deliver a product or service by partnering with internal and/or external stakeholders. Some organizations will use these job titles interchangeably: a job titled “Product Manager” by one employer may have similar responsibilities to a “Program Manager” at a different employer, while some companies may use “Product Owner” for many of the responsibilities below. Meanwhile, Project Manager usually maintain the schedule and timeline for entire software release cycles across multiple teams. When searching for jobs, search for each title and read job descriptions carefully to understand the skills and responsibilities expected of each role.

Overview

Project Manager: This role creates and manages project plans that will lead to the desired result given constraints (usually limited time, money, and/or people).

Program Manager: This role manages multiple related, strategic projects that contribute to high-level business outcomes, such as launching a new product or reducing costs.

Product Manager: This role guides end-to-end development work for their product, which may include what to build and for what audience, and defining and measuring success metrics. Some employers call this a “Product Owner,” while others may use the Program Manager title.

Common job responsibilities (entry level):

- Project Manager:
 - For individual projects: Work across teams/roles to create plans that identify the people who need to be involved and how they will work together, the intermediate steps (“milestones”) required to complete the project, and expected dates for milestones and project completion
 - Monitor progress toward project completion
 - Identify and work to resolve blockers/delays that may prevent project success
- Program Manager:
 - See Project Manager responsibilities, but for strategically related projects
 - In product development, may be involved at early stages to use engineering knowledge and/or relationships with engineering teams to advise and ensure agreement on goals and feasibility by delivering a product specification document (“spec”) which details the work to be completed
- Product Manager:
 - Serve customers by delivering product strategy (“big picture”)
 - Work across teams/roles to research customer needs, influence product creation or changes, and align the stakeholders involved in execution

Video Guide

The video features two mentors, including a MinT graduate, with expertise in technical program and product management.

Video contents:

- What are Technical Program, Product, and Project Management? – 00:38
- Key responsibilities – 02:34
- What traits/previous experiences/skills might be a fit and what might draw someone away from this role, paths to TPM – 06:38
- Typical interview questions and what to ask your interviewers – 26:09

Meeting Outline

Before your mentor meeting: Watch the video and write down keywords to look up, details you want to remember, and questions to discuss. Write down interview questions to practice together.

During your meeting:

- (10 minutes) Ask your mentor:
 - Have they been in this type of role? If so, what was their experience?
 - How have they interacted with these roles? How was the work distributed?
 - How do TPM roles work in their current or past workplaces? What titles are used and what responsibilities does each title include? Are these roles part of the core development team or separate?
 - Based on my strengths and interests, do they think I would be a good fit for these roles? Why or why not?
- (10 minutes) Share your screen with your mentor and search for Technical Program, Product, and Project Manager roles posted on LinkedIn. Brainstorm together and use a combination of keywords for the most inclusive results. What common job responsibilities and requirements do you see? Do the responsibilities seem interesting to you? Which requirements do you already possess, and which do you need to focus on building? Who can you connect with through LinkedIn to help you understand how accurately the job descriptions reflect the actual work?
- (10 minutes) Role-play common interview questions with your mentor (26:09 in the video). Work together to draft an outline of each response, then practice asking and answering multiple times to get comfortable.
- (5 minutes) Starting with the suggestions from the speakers, write down 3 questions that you would ask during an interview.

Glossary

SME: Subject matter expert; common abbreviation for the person in an organization who is the go-to person for information or guidance.

Project lifecycle: Five stages of project completion: Initiation, planning, execution, monitoring and control, closing.

Stand-up: Brief daily meeting common to engineering teams where members share current work, challenges, and future plans.

Agile/Scrum/Kanban: These are project management approaches. Agile principles encourage flexibility and communication. Scrum and Kanban are two frameworks that teams use to manage projects using Agile principles.

Backlog: Continuously updated and prioritized list of tasks needed to complete a project.

Refinement: In an Agile workplace, refinement is the process of reviewing, updating, and reprioritizing the backlog.

Use These Resources

Books:

- [*Cracking the PM Interview*](#) by Gayle Laakmann McDowell
- [*Cracking the PM Career*](#) by Gayle Laakmann McDowell
- [*Harvard Business Review Project Management Handbook*](#) by Antonio Nieto-Rodriguez

Articles/Websites:

- [Program Manager vs Project Manager vs Product Manager](#) (Indeed.com)
- [Project Manager Vs. Product Manager Vs. Program Manager](#) (Forbes)

Average pay at entry level (source: Levels.fyi):

- Technical Project Manager: base pay \$40K (Miami FL) to \$140K (San Francisco) depending on location
- Technical Program Manager: base pay \$44K (St. Louis MO) to \$111K (San Jose CA) depending on location
- Technical Product Manager: base pay \$62K (Los Angeles CA) to \$128K (Redmond WA) depending on location

Videos:

- [MinT mentor interview: Program, Product, and Project Management](#)
- MinT workshops:
 - [MinT x Salesforce: Product/Program Manager](#)
 - [Career panel workshop: Tech Recruiter, Site Reliability/DevOps, Product/Program Management](#)
 - [Ask Us Anything workshop featuring mentors: Software Engineer, Tech Writer, Product/Program Management](#)

User Interface/User Experience

Watch the video: https://youtu.be/ki001vL_evM

What is UI/UX?

Overview

User Interface (UI) and User Experience (UX) roles use data, user research, and design principles to help customers use software successfully, which helps the company achieve business goals.

UI/UX roles work across development, marketing, and leadership to identify and advocate for features that create the best possible customer experience with the software. Job responsibilities will evolve depending on employer size and maturity and current stage of product lifecycle, and role may include multiple projects across different lifecycle stages.

Common job responsibilities (entry level):

- Conduct user research: Observe users as they naturally interact with the software, use knowledge of psychology to build hypotheses for how changes can help users better achieve their goals
- Design and iterate: Build storyboards, wireframes, and low fidelity designs to envision software changes. Socialize proposals with stakeholders, use data to support recommendations.
- Graphic design: Utilize design principles to design branding, fonts, colors, and overall design language to ensure changes align with company brand identity

Video Guide

The video features two mentors who speak about their experiences as Data/Business Analysts.

Video contents:

- What is UI/UX – 00:05
- Key responsibilities and a typical day – 3:41
- Traits/previous experiences might be a fit and what might draw someone away from this role – 13:52
- What helps you stand out in resume review and interviews – 24:55
- Career paths – 37:47

Meeting Outline

Before your mentor meeting: Watch the video and write down keywords to look up, details you want to remember, and questions to discuss. Write down interview questions to practice together.

During your meeting:

- (10 minutes) Ask your mentor:
 - Have they been in this type of role? If so, what was their experience?
 - How have they interacted with these roles? How was the work distributed?

- Who owns UI/UX in their current or past workplaces? Are these roles part of the core developer team or separate?
- Based on my strengths and interests, do they think I would be a good fit for this role? Why or why not?
- (10 minutes) Share your screen with your mentor and search for UI and/or UX roles posted on LinkedIn. Use a combination of keywords for the most inclusive results (some examples: design, interface, user research, interaction design, information design). What common job responsibilities and requirements do you see? Do the responsibilities seem interesting to you? Which requirements do you already possess, and which do you need to focus on building? Who can you connect with through LinkedIn to help you understand how accurately the job descriptions reflect the actual work?
- (10 minutes) Role-play common interview questions with your mentor. Work together to draft an outline of each response, then practice asking and answering multiple times to get comfortable.
- (5 minutes) Based on the suggestions in the video, design and write down 3 questions that you would ask during an interview.

Glossary

Data visualization: using graphics like plots, infographics, animations, etc. to represent data in an easy-to-understand way

Human-computer interaction (HCI): research field exploring how interactive computing systems can be more user-friendly and efficient for human users.

Information design: presenting information in a clear, accessible way that is easy for the reader to understand

Interaction design (IxD): field that uses form and user behavior to design interactions between the user and a product, service, or system

Preattentive attributes: visual characteristics such as color, size, shape, and position that the brain perceives instinctively. UX/UI roles can use these to guide users through information and visual interactions.

Use These Resources

Books:

- [*Thinking, Fast and Slow*](#) by Daniel Kahneman
- [*The Visual Display of Quantitative Information*](#) by Edward Tufte

Average pay at entry level (sources: Levels.fyi, salary.com, payscale.com):

- UX Designer: base pay \$50K-\$128K depending on employer and location across US, average \$113K in Seattle
- UX Engineer: base pay \$60K-\$165K depending on employer and location across US, average \$121K in Seattle

- UX Researcher: base pay \$60K-\$138K depending on employer and location across US, average \$85K in Seattle

Videos:

- [MinT mentor interview: UI/UX](#)