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Google Interview - General Cognitive Ability (GCA)

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- ① Aug 2021 (https://www.davidmaiolo.com/portfolio-item/google-interview-general-cognitive-ability-gca/)
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ability-gca/)

To determine who gets hired, **Google interviewers** use a scientifically proven method called "**structured interviewing**." where interviewers prepare a list of rigorous and relevant questions, and then come up with a scoring rubric to match those questions. This is a bit of a different method from typical job interviews in that instead of asking questions catered specifically to your resume, the same set of questions are used to assess every candidate interviewing for the same job. When drafting questions, interviewers must take into account Google's four core attributes:

- General cognitive ability: How a candidate thinks smart people who can learn and adapt quickly
- Leadership: Leadership skills People who can step into leadership roles, but also know when to step back once the need for their skills have passed
- Googleyness: Intellectual curiosity. People who show signs of comfort with ambiguity and have a collaborative nature
- Role-related knowledge: People who have the experience and background for the specific job they're applying for

General Cognitive Ability (0:45 Minutes Total)

Let's discuss how a candidate thinks. After your resume screen, often times you'll be invited to a GCA, or **General Cognitive Ability** interview at Google or over the phone. Although this may sound like convoluted terminology, it's really just an assessment of how you break down complex problems and come up with really thoughtful solutions. A GCA interview is:

- An assessment of your problem-solving skills: how are you using reason and rationale and data to solve complex issues.
- Insight into your work style
- · Opportunity to talk through situations you may face at Google, or other Googler's have faced in the past.

In the past, Google used to ask questions like, "How many golf balls could fit in a 747?" Google no longer asks these types of questions and have instead moved towards hypothetical or behavioral questions.

Introductions (0:05 Minutes)

The typical question here is, "Tell me about yourself." Break this into three sections: Present, Past and Future. Here is how I would answer that question.

Present: I've been working as a Sr Customer Engineer at Microsoft. Recently, I've been working with customers to Identify Cloud Adoption opportunities for their endpoint management strategies (such as SCCM to Intune) and focus on endpoint security and policy management. I strive to maintain a technical relationship where I help map and translate our product offerings to their current business objectives. As I work with the customer I'll provide proof-of-concepts, technical deep dives, presentations, workshops and often help them implement solutions.

I've been designing deliveries as well, and have put together a number of projects around migrations to Intune and designed an assessment tool using different APIs that is designed to assess Azure Tenants, back them up, and provide insights on mergers. This tool and associated deliveries generates around \$20M in revenue annually.

I'm about to graduate with my masters in Information Management Systems from Harvard's Extension School. My current GPA is 3.7 and graduate is set for 2022.

Past: I started with a passion for computers around 8 and recall some of my favorite moves as a child being Pirates of Silicon Valley and Sneakers. I've always really enjoyed dynamic and challenging situations in life, and have been pushing myself since a young age. While staying primarily in IT, I have continued to push my other interests and have been a professional photographer (traveling to North Korea and dozens of other countries), an auto mechanic, pianist, stand-up comedian and rock climbing instructor in New Zealand. I have always had a genuine passion to try and solve problems and find my current position as one of the most passionate things I have ever done. My clients often say that my interactions with them are some of the most beneficial they have ever had at Microsoft, and I've heard them attribute that to my passion, empathy, knowledge and humbleness.

Future: Looking forward, I strive to be in dynamic and challenging environments where we can really make an impact on customers. I've actually had quite a few opportunities to discuss the Google culture with other Googler's over the past year (my good friend that is a TAM and fellow Harvard student that is a CE), and this interview is by no coincidence to what I learned. It sounds to me that these roles encourage plenty of dynamic thinking in challenging and changing environments, and that is something I have been excellent with during the course of my career.

From the introduction, the GCA interview is broken up into two parts:

Part 1: Behavioral (0:10 minutes)

These are past behaviors and assessing those past behaviors. A sample behavioral interview question could be:

- "Tell me about a time when you lead a team."
- "Tell me about a time when you communicated effectively"
- "Tell me about a time when you failed."
- "Tell me about a time when you received negative feedback?"
- "Can you share your experience of working in an uncertain situation?"

Here are some tips on behavioral questions that might be asked, what you might speak to, and some examples how to answer them. Make sure to come prepared with at least one example of each, and use the S.T.A.R. method (which stands for situation, task, action, result) to describe your experience

• Q: "Describe a time you took on a project risk and failed?" Speak about experiences where you took risks, made mistakes, and failed. They want to know if you were humble enough to accept and learn from those mistakes. You certainly don't have to be perfect. Your life doesn't have to be defined by experiences of success alone. So don't be hesitant to reveal past failures. What matters is whether you learned from your failure. A: My very first solo client at

Microsoft. Very eager to come into Microsoft and show my worth after training had finished, I took on a high-profile client in downtown Los Angeles. The client was looking for solutions to decrease downtime in their endpoint management application. As soon as I understood their problem, I sat with their engineering team and began to write automation scripts to run in their production environment that would resolve one of their largest bottlenecks. Everything seemed to go smoothly and the client was impressed with my quick 'wit' to solve their issue. A week later I received a follow-up call saying the script had stopped an important production migration task and forced them to have over a ½ day of downtime. I worked with the client to resolve the issue and set aside time with them to move the script to a test environment. Result: I was so convinced my script was solid, that I neglected to even suggest testing it in a dev environment. This experience taught me humility with my very first client and reminded me the importance of putting the customer's needs before my ego. From there on, I like to be a lot clearer with customers helping them understand certain risks and to plan for contingencies, regardless of how solid a plan may seem.

- Q: "Tell us about a time you executed a new task or project?" Speak about a past project that involved significant learning. If you found yourself in a situation where you successfully completed a project despite being unaware of certain functionalities at the start, mention your approach, how you implemented your learnings, and how you went about successfully completing it.A: Moving my customer deliveries from on-prem technology solutions to cloud-native solutions. When I joined Microsoft, I had little to no cloud technology knowledge and was hired to develop and deliver content for our on-prem endpoint management technology. Although I was successful in this role, I knew Microsoft was eagerly adopting a cloud-first strategy and I wanted to grow with Microsoft's vision and reinvent myself for cloud-native solutions such as application modernization in azure, infrastructure modernization in azure and cloud endpoint management technologies like Intune and related technologies. This required me to essentially start from scratch, and I worked towards cloud-native accreditations and had shifted to 100% cloud-native deliveries in under a year. A2: Working for a large movie studio in LA that was having great difficulty in a merger with another organization, I developed a tenant merger and assessment tool from scratch that helped them with a huge Azure merger. When faced with this difficulty my client was experiencing during a multi-billion-dollar acquisition, I took it upon myself to understand their issues with an Azure tenant merger and built an assessment and migration tool.Result: The subsequent engagement was not only successful for my client but went on to make ~\$18M in revenue annually as a sold consulting engagement using this tool for other companies facing similar issues.
- Q: "What are three things you consider important to maintain work-life balance?" Speak about 3 productive activities that bring you joy every day, and why you'd like to do them despite having a busy work day. Talk about what you expect from your company to keep yourself energized and motivated when you come in the next day. A: Prioritize your time, maintain personal health and remain uniquely myself. It is important to make sure you know your limits and prioritize time for yourself and your family. I think of it as like a budget of time. Personal health, physical and mental, is also important because it helps me maintain boundaries where I can focus on work and life. For example, if I am plagued with unresolved personal or work problems, work and personal life will blend as my issues will permeate constantly in my consciousness. Finally, although it is important to adopt company attitudes and mission, remaining who I am at my core everyday helps give me a sense of balance that makes work seem less controversial to my personal self, and therefor less necessary to maintain a clear boundary for a health balance. Result: During my career, I think I have always been able to balance a healthy work-life balance. My trueness to character has kept me in good spirits and fun to work with, my physical and mental health has guided me through rough patches, and a good time management assures I am still meeting my career and life goals.
- Q: "Tell us about an accomplishment you're particularly proud of and why?" Speak about a past project that involved dedicated efforts from other members of your team and how you achieved goals as a team.A: Winning back a large Canadian company to Microsoft. A Microsoft Account manager reached out to me that she was about to lose a major contract with one of our "Canadian Big-Bets" due to a number of botched prior engagements and failed cloud migration initiatives. I took on the challenge and brought in previous delivery engineers and the account manager to understand the customer and their issues. We identified several problems, including our delivery style, their unique environment, a tarnished Microsoft image within the company and failed engagements due to personal health issues from one of the previous engineers that required them to cancel a delivery more than once. Using this information, I put together a strategy to win back the company that showcased our willingness at Microsoft to admit our faults and to once again listen closely to their concerns and get appropriate resources assigned. Result: Not only did my initiative work to win back the company's trust, they also agreed to renew their annual DSE contract and let them account manager know their renewed trust was due specifically to my handling of their account.

A2: Winning over a large government account on the West coast. After a successful Intune migration delivery with a large government account, the projects lead encouraged Microsoft to have me work with them on a long-term contract for a large-scale (30K clients) Windows 10 migration to the cloud. This included identity, security, deployment,

application modernization, monitoring/logging and scaling.Result: Not only did I work with them to successfully migrate the 30K clients to Azure, the I was asked to return the subsequent year for a continued cloud migration project that involved a refactoring of their applications to Azure.

- Q: "How are you going to impact the team after you join?" Speak about fun and interesting activities that you'd like to be part of or initiate. A: I will be curious to learn more about how the CE space functions and how I can contribute to our tram's success. I'd be willing to work hard to spot the areas of potential improvements and have the willingness to do whatever it takes to make the customer successful. I would look for ways to contribute in a dynamic and fast paced environment where change is constantly a way to accelerate. I'd love to learn more about Google's diverse culture and add diversity in thought and experience as a fundamental mover in my role.
- Q: "Have you ever faced conflict while working as a team? If so, how did you deal with it?" Speak about how you were able to resolve a past conflict with a fellow colleague, and how you arrived at a consensus for the greater good of the project. A: I had a hunch an account manager at Microsoft did not like my delivery style with our customer so I followed up find a solution. I took my account manager out to lunch and told him it would be ok if he wanted to tell me candidly how I was handling the account. He did open up and told me the customer, all though they like me, are looking me to provide more technical feedback and guidance on the migration of an SCCM site into a new datacenter. I continued working with the account manager and eventually ended up seeking a new engineer to take over the account. I worked with both the engineer, customer and account manager to bring every one on the same page and that the end solution was to assure the customer had what they were looking for.Result: The transition to the new engineer went very smooth and the customer specifically reached out to me to thank me for how professional and courteous I was to help them find a replacement for myself with nobody asking. They built an excellent relationship with this new engineer and continued to bring me on for several other projects where my skills were relevant.
- Q: "Why do you want to work at Google?" Speak about your favorite Google products and what you like best about Google's work culture. A: I want to join Google based on my own discovery, looking for the right role. I have spoken to many people at Google over the past couple years, specifically narrowing in on a Customer or Sales Engineer role. One thing I especially like about what I have learned at Google is the need to solve customer problems in dynamic and challenging environments. I have worked especially well in these situations; however, some companies have a more mature cloud adoption strategy where the approach for delivery is more formalized and determinate. I am looking for a role where quick witted, dynamic thinking in an exciting and challenging environment is rewards and I believe Google to be the right path for me to foster this ability.

Part 2: Hypothetical / Situational (0:20 minutes)

These are questions that are assessing real-life situations you may actually face at Google. The goal of these types of questions is to see how you:

- Understand the question you are often given too much or too little information. Google wants to make sure you understand the core and central issue. This is your ability to get through the noise and get to the core issue at hand.
- **Prepare a strategy** with the information given, are you able to thoughtfully parse through that information and formulate a coherent, dynamic response.
- Identify a solution(s) these responses are often open ended, and there is no right or wrong way to answer GCA questions.
- Determine justification for a solution how can this solution be justified?
- Communicate how well have you been able to communicate solution to interviewer?

Strong Response Framework

Let's look at a framework of how to build a really strong response. This framework does not have to be prescriptive, but should give you a general sense of how to tackle a GCA question. There may be some questions that require all elements of the framework, where other questions only require a couple.

How to build a strong response

Element	More information
Take a moment before responding	Write down question as it's being asked. "Can you repeat the question?" "Can I have a moment before responding?"
	Typically, Google will give you too little, or too much information. Ask interviewer

Ask clarifying questions	enough questions to effectively answer the question.
Share logical assumptions	Because you don't have enough information, make logical leaps that work for your response.
Show your work	Communicate to interviewer your thought process
Consider Pros and cons -or- Think about how you measure success	
Tie it back to the role	Often these questions are role related to what you are applying for, so if you can tie it back to the role.

Sample Questions

Let's look at an actual question from a prior interview. We will use a combination of GCA goals and framework elements to answer the question.

"Imagine you are in charge of organizing the grand opening event of a new Google office. How would you plan this event?"

Element	How to Respond
Ask clarifying questions	"Where is the new office?" – Cambridge "Is there a budget?" – You can decide. There was a similar event last year in NY and their budget was \$50k "How many people are attending?" – 100 people
Share logical assumptions	"I will assume there is a facilities team onsite to help me organize this event" "I'll also assume that the objective of this event is to welcome new Googlers to the Cambridge office" "Since NYC is larger than Cambridge, I'll assume this grand opening will be smaller and we will only need a \$10k budget."
Show your work	"I am assuming we have a budget of \$100 per person." "I'm also assuming I will have the capacity to coordinate with someone in the Cambridge office" "I will also assume all logistical needs can be solved by local vendors"
Communicate your solution	 "I would recommend the following steps to plan the Grand opening of the Cambridge office First, I'm assuming there is a facilities team on-site to assist with this project, and all logistical efforts can be supported internally. I would reach out to that team to begin planning, and to assess if I will have to use outside vendors. Second, I'll assume we have a budget of \$100 per person; therefore, I know I have ample budget for food, drinks and décor. Third, because the objective of the event is to welcome new Googlers to the office, I would ensure that I'm inclusive of all Googlers in my planning. I'd try to bring local food vendors or find some fun activities for nooglers and their families to do. Finally, I would collect an experience feedback from the NYX event and incorporate it into my planning.
Consider Pros and Cons -or- How You Would Measure Success	 "To measure success, I would" 1. Send out a post event survey to the attendees to measure impact against the intended objective 2. Make sure capacity stayed within budget 3. Record the number of attendees 4. Ask, will my project plan be used to plan future grand openings?

Let's look at other hypothetical questions that were used previously at Google:

- "Imagine you're working on an email product and a competitor starts charging a \$5 monthly fee for their product. How would you assess the situation and what recommendation would you make to your team?"
- "Imagine you're working in a new company and you realized there is a dashboard showing the business metrics, but no one uses it. How will you convince your colleagues to use the dashboard and which communication tools will you use?"
- "Imagine you're working in a new company and you discover the employees are using online documentation, yet your department still receives 20% of calls. How can you decrease this by 10% and how will you measure the results?
- "Imagine you're working in a new company, and you discover they have 80% satisfied customers. How can you increase this to 90%?"
- "Imagine you are working with a new customer. How will you help your customer to make a choice between laaS and PaaS?"
- "Imagine you are working with a Sales rep that has a new customer. What steps would you take if the sales rep request you for a deep-dive on Containers for that customer?"
- "Image you are working with a new customer. What steps would you take to guide your customer if they want to develop an app and use GCP products?"

How would you answer these?

Candidate Evaluation - The Scoring Rubric

As you answer the questions, the interviewer will be using the structured interviewing scoring Rubric to assess you on the following items. As this is an internal process, I am making some assumptions that a Rubric may look like this.

Item	Score 1-10
How well did the candidate understand the question, including the basic problem?	
How well did they ask clarifying questions?	
What relevant information, stakeholders, and variables were considered?	
Did the candidate identify multiple solutions?	
Were they able to reasonably justify why their solution was the best option?	
Did the candidates listen to incorporate any feedback/hints from probing questions?	
Total Score	

Wrap-Up (0:05 Minutes)

Here, you'll just wrap up the interview and wish each other a nice weekend, etc.

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