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Certification Prep Guide Series:

How to Become a Google Certified Professional Data Engineer

How to Become a Google Certified Professional Data Engineer

This Certification Prep Guide provides an overview of the current Google Cloud Platform (GCP) Certified Data Engineer certification and offers helpful tips that you can use when preparing for your GCP certification exam.

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Why get certified as a Google Cloud Data Engineer?

Cloud computing is here, and it is here to stay. As the computer industry transitions to the service-based model of delivering infrastructure, platforms and software (IaaS, PaaS, and SaaS, respectively), along with many variations on these themes, studies indicate continued acceleration of growth. A 2017 Gartner study shows that cloud technology growth will continue for the next five years.¹

Cloud adoption is rising and the amount of data being introduced is expanding even faster, as 90 percent of the data in the world has been created in the last two years.²

As the data explosion continues, the ability to tame the data into usable information is becoming more complex and requires new skills and abilities. A data engineer fits seamlessly into this growing area. Data engineering is a broad field, but any individual data engineer doesn't need to know the whole spectrum of skills to be effective.

As an oversimplification: a data engineer transforms data into a useful format for analysis.

The tools used by a data engineer have to work at large scale, work quickly and produce meaningful data as the raw numbers are processed. GCP provides the tools and infrastructure to enable data engineers to transform the data into meaningful

information. To leverage the data-processing capabilities of GCP, training is required, which has led to the development of the data engineer certification from Google.

What is the GCP Professional Data Engineer certification?

Google has created a track for IT professionals to certify as a data engineer on the GCP platform. This certification program provides Google cloud professionals a way to demonstrate their skills. The assessment is based on a rigorous exam using industry standard methodology to determine whether a candidate meets Google's proficiency standards.

According to Google, a Google Certified Professional - Data Engineer “enables data-driven decision making by collecting, transforming, and visualizing data. The Data Engineer designs, builds, maintains, and troubleshoots data processing systems with a particular emphasis on the security, reliability, fault-tolerance, scalability, fidelity, and efficiency of such systems.”³

Candidates who achieve the GCP Data Engineer certification will gain confidence in their ability, understanding and proficiency with the GCP environment. In the competitive cloud marketplace, certifications will be a differentiator and position individuals ahead of the game.

The data engineering certification is intermediate-level; it is expected that candidates have related experience in this field in order to pass the examination.

Who should take the Data Engineer exam?

Data architects, data engineers, developers responsible for managing big data transformation initiatives, and even data analysts have the existing skills and could benefit from learning additional skills associated with this exam.

How will becoming a Google Certified Data Engineer impact your job and career?

Certifications in the IT industry have a proven track record of providing value and confidence to employees, employers and customers, including:

- Demonstrated knowledge in a technology or product.
- Enhanced understanding of a technology or product.
- Differentiation from other candidates in a job application.
- Proof of continuous learning.
- Deepen understanding through preparation for a certification, even if you are familiar with the technology or product.

- Increased credibility for the professional and their organization.
- Increased opportunities for new tasks or career paths.

With these benefits (and more) in mind, a GCP Professional Data Engineer certification is no exception. A candidate that achieves [certification as a Google Certified Professional Data Engineer](#) has proven their ability to leverage the GCP environment in many ways:

- Build and maintain data structures and databases.
- Design data processing systems.
- Analyze data and enable machine learning.
- Model business processes for analysis and optimization.
- Design for reliability.
- Visualize data and advocate policy.
- Design for security and compliance.

Now that you know what the GCP Professional Data Engineer certification is, it's time to learn more about the exam and create a plan for achieving the certification.

Google Data Engineer exam guide

The Google Certified Professional - Data Engineer certification exam objectively measures an individual's ability to demonstrate the critical job skills for the role. The exam is available in English and Japanese and there are no prerequisites. It must be taken in-person at a [Kryterion testing center](#) location.

- **Format:** Multiple choice and multiple select
- **Duration:** 4 hours
- **Registration fee:** USD \$200

[Register here for the Google Cloud Certified Professional Data Engineer exam](#)

When taking the exam, you must arrive at the testing center before the exam time with proof of identity (typically a driver's license or passport, but may vary depending on the country and testing center.) Contact the testing center the day before your exam to confirm what you must bring with you. No paper is permitted, and most centers require you to empty your pockets and leave everything in a locker during your exam session.

You will be under observation during the exam, usually with cameras or a live proctor that remains in the room during the test.

After loading the test and logging in, your exam begins when you click the button in the session. You have four hours to complete the test.

How to prepare for the Google Certified Data Engineer certification

Hands-on instructor-led training and self-study are valuable and necessary for certification exam preparation.

Instructor-led training courses

Below are recommended training courses that will not only give you the hands-on skills to use Google Cloud in your everyday job, but also help you to prep for the GCP Data Engineer certification. These courses are instructor-led and can be delivered virtually, so you can attend from your home or work, or in-person at an onsite group environment at your office.

Recommended courses

[Google Cloud Fundamentals: Big Data and Machine Learning](#)

- One-day instructor-led, introducing the big data capabilities of GCP and a chance to work with some of the functions and features in hands-on labs.
- Prerequisites:
 - Basic proficiency with common query language such as SQL.
 - Experience with data modeling, extract, transform and load activities.
 - Developing applications using a common programming language such as Python.
 - Familiarity with machine learning and/or statistics.

[Data Engineering on Google Cloud Platform](#)

- Four-day instructor-led course, providing a hands-on introduction to designing and building data processing systems on the GCP platform.
- Prerequisites:
 - Completion of [Google Cloud Fundamentals: Big Data and Machine Learning](#) or equivalent experience.
 - Basic proficiency with common query language such as SQL.
 - Experience with data modeling, extract, transform and load activities.
 - Developing applications using a common programming language such as Python.
 - Familiarity with machine learning and/or statistics.

Other materials and references

When preparing for the GCP Data Engineer certification, there is no substitute for spending time in the product. Formal training provides an excellent starting point for understanding GCP, but the concepts brought forth in those classes can be reinforced and deepened through time spent using the platform. Fortunately, there are many ways to spend time in GCP, exercising the product suite to perform tasks and meet specific goals as you prepare to take the exam.

Free trial of GCP

One of the first things to do as you prepare is to [sign up for the free trial of GCP](#). This is a 12-month trial that includes \$300 of usage credit. Many GCP services have a free tier, but in your exploration, you may want to try out features that involve a fee or charge. The \$300 credit provides you room to experiment and learn about the platform at no cost.

Tutorials

As you study, it is likely you will find an area of GCP where you want more practice. Often, you can spend more time in an area through a tutorial. Tutorials are provided as part of the GCP documentation. These guided, step-by-step examples are an opportunity to solve specific use-cases in the GCP environment. There are two groups of tutorials: those provided by Google, and others provided by the GCP community. Tutorials provided by Google are created and maintained by Google employees, and as such are known to be reviewed, edited and work with Google's environment. Tutorials from the community are from users, partners and others willing to share their expertise and ideas, but are not guaranteed by Google in terms of applicability and currency.

- Google-provided tutorials: <https://cloud.google.com/docs/tutorials>
- Community-provided tutorials: <https://cloud.google.com/community/tutorials/>

Recorded Google Cloud Next Sessions (videos)

Google Next is the biggest way for the Google community to connect during a four-day event full of breakout sessions, training and keynotes. It's a camaraderie of Google Cloud experts, gurus and fanatics. There are over [200 video-recorded sessions available on YouTube](#) from last year's event. During your preparation, if there are any areas where you feel you want more depth, such as with Cloud Storage, Datastore, Stackdriver and others, these videos might be helpful. Even after the exam, these are great resources for future reference.

Data Engineer exam: Tips & tricks

Allocate time to prepare

This certification is not one in which you can study one afternoon and take the test the next morning. The design of the examination, and the skills and knowledge expected, mean that you will need to take the time necessary to understand the content and practice in the GCP environment prior to taking the exam.

Review and understand the case studies provided by Google

During the exam, you will be presented questions based on one of four possible customer situations. Take the time to review the case studies before you show up for the exam. Reviewing ahead of time provides testing benefits. For example, you can consider possible solutions on your own, and when presented with multiple choice

questions around the same topics, you will be better able to find the best answer from those presented. Further, you can save time during the test by knowing about the customer and not spend exam time reading about and considering the customer.

Find and read [Google Cloud customer case studies here](#).

Review the exam guide

On the same page as the case studies is an exam guide. The wording of the exam guide might feel overwhelming, but the overall concepts provide clues as to how the exam is written and the types of questions you will encounter.

How do you know if you pass?

GCP exams are designed to determine whether an individual meets a minimum passing standard. Therefore, you'll be notified on a simple pass or fail level. Numerical scores are not meaningful for those taking this exam because the tests are not designed to be diagnostic or assess you on a scale of ability.

Another item to note is that you won't receive feedback on the exams because Google Cloud doesn't want the information to be misleading. Since exams are not testing strengths and weaknesses, they don't see a reason to include feedback to confuse you.

What happens if you don't pass the exam?

If you don't pass the certification exam, you can take it again after 14 days. If you don't pass the second time, you must wait 60 days before taking it a third time. If you don't pass the third attempt, you'll have to wait a year before trying again. Payment is required each time you take an exam. Trying to sidestep the retake policy by registering under a different name is a violation of the exam terms and conditions and will result in a denied or revoked certification.

How to maintain your Data Engineer certification

All Google Cloud certifications are valid for two years from the date certified, unless the specific certification detail states otherwise. To maintain certification status, you will need to recertify.

Since Google Cloud technology constantly evolves, skills gaps are likely. To keep up with the pace of change, training courses, self-study and practice are imperative for skill maintenance.

Next steps after you obtain your GCP Data Engineer certification

You've reached your goal of becoming a Google Cloud Certified Data Engineer. Congratulations! Whether you want to jump right into another GCP certification or

spread your wings and take on another topic area, we've got you covered with our Google Cloud Certification Tracks and Learning Paths.

- [Google Cloud Platform Certification Tracks](#)
- [Global Knowledge Cloud Learning Path: Google Cloud](#)

Summary

Achieving the [Google Certified Professional Data Engineer certification](#) is no simple feat. It involves having an understanding of data architectures and tools along with in-depth understanding of the GCP offerings needed to work with data at a large scale. Data engineers, architects and developers should be able to make informed decisions on if it's best to use Big Table versus Cloud Spanner to track Monitoring and metrics. To use the offerings effectively, you must have understanding about each option. This level of knowledge can only be acquired by spending time in the environment and studying materials to guide your learning.

With some time, effort and focus, it is achievable, and as the cloud market grows, the value of this certification will only grow with it.

About the Author

David Ross

After receiving a degree in Curriculum and Instruction with a math minor from Texas A&M University, David Ross has gained almost 30 years of IT experience across a variety of products and technologies. He has been a math teacher, systems administrator, adjunct and full-time college professor, and spent over 15 years with IBM developing technical training materials. While at IBM, David presented sessions at multiple conferences and contributed to a Redbook on the TADDM product. David's recent accomplishments include certifying to teach Google, DASA, CCC and Docker classes, as well as consulting on Red Hat and IBM products. A father of three fine men, he awaits grandchildren with his wife of almost 30 years in Austin, Texas.

Footnotes

1. [Gartner Says Worldwide Public Cloud Services Market to Grow 18 Percent in 2017](#)
2. [How Much Data Does The World Generate Every Minute?](#)
3. [Google Cloud, Professional Data Engineer](#)