**Cloud Digital Leader**

**Certification exam guide**

A Cloud Digital Leader can articulate the capabilities of Google Cloud core products and services and how they benefit organizations. The Cloud Digital Leader can also describe common business use cases and how cloud solutions support an enterprise. The Cloud Digital Leader exam is job-role agnostic and does not require hands-on experience with Google Cloud.

Exam guide

**Section 1: Introduction to Digital Transformation with Google Cloud (approximately 10% of the exam)**

    1. Explain why cloud technology is revolutionizing business

        1.1. Define key terms such as cloud, cloud technology, data, and digital transformation

    2. Explain why it is critical for businesses to adopt new technology

        2.1. Compare and contrast cloud technology and traditional or on-premises technology

        2.2. Describe how customer expectations have changed because of cloud technology

        2.3. Identify the business and technical considerations that organizations need to think about when adopting cloud technology, including: infrastructure; application and business platform modernization; the importance of data; security in the cloud

**Section 2: Innovating with Data and Google Cloud (approximately 30% of the exam)**

    3. Describe the role of data in digital transformation and the importance of a data-driven culture

        3.1. Explain how cloud technology enables data to be applied in new ways

    4. Identify common Google Cloud solutions for data management

        4.1. Recognize examples of structured and unstructured data

    5. Identify common Google Cloud solutions for smart analytics

        5.1. Articulate the business benefits of storing data in the cloud

        5.2. Apply appropriate business use cases for databases, data warehouses, and data lakes

        5.3. Explain the benefits of Google Cloud data products, including: Looker, BigQuery, Cloud Spanner, Cloud SQL, Cloud Storage

    6. Identify Google Cloud’s solutions for machine learning and AI

        6.1. Define artificial intelligence (AI) and machine learning (ML)

        6.2. Outline the importance of data quality in ML prediction accuracy

        6.3. Describe Google Cloud’s differentiators with regard to AI and machine learning

        6.4. Recognize the ways customers can use Google Cloud’s AI and ML solutions to create business value

**Section 3: Infrastructure and Application Modernization with Google Cloud (approximately 30% of the exam)**

    7. Learn what modernizing IT infrastructure with Google Cloud means

        7.1. Explain why legacy infrastructure struggles to deliver modern services to customers

        7.2. Explain the benefits of modernizing infrastructure with cloud technology

        7.3. Differentiate between hybrid and multicloud infrastructures

        7.4. Differentiate between virtual machines, containers, and serverless computing within business use cases

        7.5. Identify the Google Cloud solutions that help businesses modernize their infrastructure

    8. Understand modernizing applications with Google Cloud

        8.1. Describe the business drivers for modernizing applications

        8.2. Describe the benefits of using cloud-native applications

        8.3. Apply the appropriate change pattern to different business use cases

        8.4. Explain the benefits of Google Kubernetes Engine, Anthos, and App Engine for application development

    9. Understand the value of APIs

        9.1. Explain how application programming interfaces (APIs) can modernize legacy systems

        9.2. Describe how APIs can create new business value

        9.3. Explain the benefits of Apigee

**Section 4: Understanding Google Cloud Security and Operations (approximately 30% of the exam)**

     10. Describe financial governance in the cloud and Google Cloud's recommended best practices for effective cloud cost management

          10.1. Explain how adopting cloud technology affects the total cost of ownership (TCO)

          10.2. Identify the cost management strategy needed in a given business scenario

    11. Describe a cloud security approach and Google Cloud security benefits

          11.1. Define fundamental cloud security terms, including privacy, availability, security, and control

          11.2. Explain what is meant by a shared responsibility model

          11.3. Describe the security benefits of using Google Cloud

          11.4. Identify today's top cybersecurity challenges and threats to data privacy

          11.5. Demonstrate how organizations can control and manage access to cloud resources

    12. Explain how IT operations need to adapt to thrive in the cloud

          12.1. Differentiate service availability requirements in the cloud versus in on-premises environments

          12.2. Describe the operational challenges that DevOps solves

          12.3. Apply the goals of site reliability engineering (SRE) to different business use cases

    13. Identify Google Cloud solutions for cloud resource monitoring and application performance management

          13.1. Explain the potential impact of unexpected or prolonged downtime

          13.2. Define monitoring, logging, and observability within the context of cloud operations

          13.3. Identify the Google Cloud resource monitoring and maintenance tools.