

GOOGLE CLOUD PROFESSIONAL CLOUD NETWORK ENGINEER PRACTICE TEST (SAMPLE) STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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Table of Contents

Copyright	1
Table of Contents	2
Introduction	3
How to Use This Guide	4
Questions	5
Answers	8
Explanations	10
Next Steps	16

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Introduction

Preparing for a certification exam can feel overwhelming, but with the right tools, it becomes an opportunity to build confidence, sharpen your skills, and move one step closer to your goals. At Examzify, we believe that effective exam preparation isn't just about memorization, it's about understanding the material, identifying knowledge gaps, and building the test-taking strategies that lead to success.

This guide was designed to help you do exactly that.

Whether you're preparing for a licensing exam, professional certification, or entry-level qualification, this book offers structured practice to reinforce key concepts. You'll find a wide range of multiple-choice questions, each followed by clear explanations to help you understand not just the right answer, but why it's correct.

The content in this guide is based on real-world exam objectives and aligned with the types of questions and topics commonly found on official tests. It's ideal for learners who want to:

- Practice answering questions under realistic conditions,
- Improve accuracy and speed,
- Review explanations to strengthen weak areas, and
- Approach the exam with greater confidence.

We recommend using this book not as a stand-alone study tool, but alongside other resources like flashcards, textbooks, or hands-on training. For best results, we recommend working through each question, reflecting on the explanation provided, and revisiting the topics that challenge you most.

Remember: successful test preparation isn't about getting every question right the first time, it's about learning from your mistakes and improving over time. Stay focused, trust the process, and know that every page you turn brings you closer to success.

Let's begin.

How to Use This Guide

This guide is designed to help you study more effectively and approach your exam with confidence. Whether you're reviewing for the first time or doing a final refresh, here's how to get the most out of your Examzify study guide:

1. Start with a Diagnostic Review

Skim through the questions to get a sense of what you know and what you need to focus on. Your goal is to identify knowledge gaps early.

2. Study in Short, Focused Sessions

Break your study time into manageable blocks (e.g. 30 – 45 minutes). Review a handful of questions, reflect on the explanations.

3. Learn from the Explanations

After answering a question, always read the explanation, even if you got it right. It reinforces key points, corrects misunderstandings, and teaches subtle distinctions between similar answers.

4. Track Your Progress

Use bookmarks or notes (if reading digitally) to mark difficult questions. Revisit these regularly and track improvements over time.

5. Simulate the Real Exam

Once you're comfortable, try taking a full set of questions without pausing. Set a timer and simulate test-day conditions to build confidence and time management skills.

6. Repeat and Review

Don't just study once, repetition builds retention. Re-attempt questions after a few days and revisit explanations to reinforce learning. Pair this guide with other Examzify tools like flashcards, and digital practice tests to strengthen your preparation across formats.

There's no single right way to study, but consistent, thoughtful effort always wins. Use this guide flexibly, adapt the tips above to fit your pace and learning style. You've got this!

Questions

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- 1. What is the first step in configuring an external load balancer in Google Cloud?**
 - A. Creating frontend configurations
 - B. Defining backend services
 - C. Setting up security policies
 - D. Configuring VM instances
- 2. Which of the following is an advantage of using VPC Network Peering?**
 - A. It reduces latency by routing through the internet
 - B. It allows secure resource sharing between VPCs
 - C. It requires public IP addresses
 - D. It simplifies external DNS management
- 3. What does the Internet Control Message Protocol (ICMP) primarily provide?**
 - A. Data encryption
 - B. Error messages and operational information
 - C. Secure data transmission
 - D. Network speed enhancement
- 4. In a VPC subnet, what is the purpose of the second IP address?**
 - A. It is the broadcast address
 - B. It is reserved for future use
 - C. It serves as the default gateway
 - D. It is allocated to the network administrator
- 5. Which of the following protocols operates at the Application layer?**
 - A. TCP
 - B. HTTP
 - C. IP
 - D. UDP
- 6. What does route priority determine in Google Cloud VPC routes?**
 - A. The speed of data transfer in the network
 - B. Which route is selected when multiple routes apply
 - C. The security level of the route
 - D. The cost associated with the route

7. What do Route Tables accomplish in a Cloud VPC?

- A. They enhance security by limiting access
- B. They specify paths for incoming traffic only
- C. They define the routing paths for outgoing traffic
- D. They provide analytics on cloud usage

8. What function does the Transport layer perform in the OSI model?

- A. Manages encryption
- B. Moves packets between networks
- C. Breaks data into manageable chunks
- D. Identifies devices on the network

9. If a VM has 2 or fewer vCPUs, what is the maximum number of NICs it can have?

- A. 1
- B. 2
- C. 4
- D. 8

10. What is the maximum capacity for a single VLAN in terms of packets per second?

- A. 10 Gbps
- B. 2.5M packets per second
- C. 1.25M packets per second
- D. 5M packets per second

Answers

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1. B
2. B
3. B
4. C
5. B
6. B
7. C
8. C
9. A
10. C

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Explanations

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1. What is the first step in configuring an external load balancer in Google Cloud?

- A. Creating frontend configurations
- B. Defining backend services**
- C. Setting up security policies
- D. Configuring VM instances

The first step in configuring an external load balancer in Google Cloud is to define backend services. Backend services are crucial because they determine how the traffic is distributed across the various VM instances that are serving the application. When you set up backend services, you can specify important parameters such as health checks, session affinity, and the scaling policies for your instances. Defining backend services provides a foundational setup that the load balancer relies on to intelligently route incoming traffic. Essentially, it allows you to define the resources that will be utilized by the load balancer to respond to requests. While the other options are part of the overall configuration process, they come after the backend services are established. For example, frontend configurations are necessary to define how the load balancer interacts with clients, security policies help ensure safe transmission of data, and VM instances need to be configured to ensure there are resources available for the load balancer to manage. However, establishing backend services is the critical first step in setting up the load balancer functionality itself.

2. Which of the following is an advantage of using VPC Network Peering?

- A. It reduces latency by routing through the internet
- B. It allows secure resource sharing between VPCs**
- C. It requires public IP addresses
- D. It simplifies external DNS management

Using VPC Network Peering offers the advantage of allowing secure resource sharing between Virtual Private Clouds (VPCs). This connection facilitates direct communication between two VPCs without exposing traffic to the public internet, thereby enhancing security while enabling resources in one VPC to be accessed from another seamlessly. One of the primary benefits of VPC network peering is that it establishes a private network path between VPCs, making it suitable for organizations that need to share applications, databases, or other services across different environments while maintaining a secure framework. This peering connection essentially treats resources in both VPCs as part of the same network, allowing for efficient communication and collaboration. In contrast, options such as reducing latency by routing through the internet, requiring public IP addresses, and simplifying external DNS management fail to capture the essence of what VPC Network Peering is designed to achieve. Network peering operates entirely over private IP addresses and is specifically focused on improving the security and efficiency of inter-VPC communications rather than relying on public internet pathways or external DNS considerations.

3. What does the Internet Control Message Protocol (ICMP) primarily provide?

- A. Data encryption
- B. Error messages and operational information**
- C. Secure data transmission
- D. Network speed enhancement

The Internet Control Message Protocol (ICMP) plays a critical role in the functionality of network communications by providing error messages and operational information. It is primarily used for sending diagnostic messages and managing the behavior of data packets across the network. For instance, when a router cannot forward a packet due to an unreachable host, it sends an ICMP message back to the origin of the packet, informing the sender of the issue. Additionally, ICMP is used in utilities like ping and traceroute, which help network administrators diagnose network connectivity issues by providing feedback on the response times and routing paths taken by packets. In contrast, data encryption and secure data transmission are responsibilities of other protocols like Transport Layer Security (TLS) or Secure Sockets Layer (SSL). Network speed enhancement does not fall under ICMP's functionalities; instead, speed improvements are typically achieved through optimizations in routing and bandwidth management rather than through ICMP operations.

4. In a VPC subnet, what is the purpose of the second IP address?

- A. It is the broadcast address
- B. It is reserved for future use
- C. It serves as the default gateway**
- D. It is allocated to the network administrator

In a VPC subnet, the second IP address within the allocation typically serves as the default gateway for that subnet. This is an essential function because the default gateway is the IP address used by instances within the subnet to communicate with external networks, such as the internet or other subnets. In many networking configurations, the first usable IP address is often reserved for the network itself, while the second IP address is designated as the default gateway, providing a seamless routing path for outbound traffic. The structure of subnets in IP addressing dictates that the lowest address is reserved for the subnet identifier, and the highest address is reserved for the broadcast address. Therefore, while the gateway may vary in its exact numbering based on subnet size, it is standard practice to use the second address for the gateway in many configurations to streamline routing processes. This enables ease of management and communication for instances within that subnet, as they know where to send packets that need to go outside their local network segment.

5. Which of the following protocols operates at the Application layer?

- A. TCP
- B. HTTP**
- C. IP
- D. UDP

HTTP, which stands for Hypertext Transfer Protocol, operates at the Application layer of the OSI model. This layer is responsible for providing end-user services and network application support. HTTP is specifically designed to facilitate communication between web browsers and servers, allowing users to retrieve and display web content. The Application layer protocols, like HTTP, focus on the interaction between the software applications and the network, enabling functionalities like web browsing, email communication, and file transfers. Because HTTP directly supports the operations and needs of end-user applications (such as web browsers), it is categorized at this layer. On the other hand, TCP (Transmission Control Protocol) and UDP (User Datagram Protocol) operate at the Transport layer, which is responsible for ensuring data is transported reliably or quickly, without focusing on the content. IP (Internet Protocol) works at the Network layer, handling the routing of packets across networks without an understanding of the data being transferred. This differentiation helps clarify the role each protocol plays within the networking stack.

6. What does route priority determine in Google Cloud VPC routes?

- A. The speed of data transfer in the network
- B. Which route is selected when multiple routes apply**
- C. The security level of the route
- D. The cost associated with the route

In Google Cloud VPC, route priority is crucial for determining which route to use when there are multiple applicable routes for a particular destination. When a packet needs to be routed, the network evaluates all available routes to that destination and must select one based on their priorities. Higher priority routes take precedence over lower priority ones. This is essential for ensuring that the traffic is directed efficiently and reaches its intended destination via the most preferred path. Understanding route priority helps network engineers manage traffic flow effectively, optimizing the overall performance and reliability of the network. It is particularly important in complex networking environments where multiple paths could lead to the same endpoint; in such cases, configuring priorities allows for better control over network behavior, which is critical for both performance and reliability.

7. What do Route Tables accomplish in a Cloud VPC?

- A. They enhance security by limiting access
- B. They specify paths for incoming traffic only
- C. They define the routing paths for outgoing traffic**
- D. They provide analytics on cloud usage

Route tables in a Cloud Virtual Private Cloud (VPC) play a critical role in defining the routing paths for outgoing traffic. When an instance in a VPC sends a packet, the route table is consulted to determine where to send that packet next. Each route specifies a destination (usually a CIDR block) and a next-hop forwarding target, which can be an instance in the same VPC, a next-hop gateway, or an external IP address. This routing mechanism ensures that data packets reach their intended destinations effectively. The option about specifying paths for incoming traffic is limited because route tables primarily guide outgoing packets rather than incoming ones. Incoming traffic is typically controlled by firewall rules or load balancers rather than route tables. Therefore, while incoming paths might be influenced indirectly through routing processes, they are not the primary function of route tables. The function of providing analytics on cloud usage relates to monitoring tools rather than the routing functionality of route tables. Lastly, while route tables can indirectly contribute to security by managing network traffic flow, their core purpose is not focused on security but on determining the proper paths for outbound packets. Thus, defining routing paths for outgoing traffic is the essential role of route tables in a Cloud VPC.

8. What function does the Transport layer perform in the OSI model?

- A. Manages encryption
- B. Moves packets between networks
- C. Breaks data into manageable chunks**
- D. Identifies devices on the network

The Transport layer's primary function within the OSI model is to break data into manageable chunks for transmission across the network. This segmentation ensures that large amounts of data can be handled more easily and efficiently. By dividing larger messages into smaller packets, the Transport layer can manage flow control and ensure that data is reassembled correctly at the destination. This layer also provides services such as error detection and correction, ensuring that any data lost in transmission can be identified and retransmitted. In addition, the Transport layer is responsible for establishing, maintaining, and terminating communication sessions between devices, offering a reliable means of data transfer, particularly with protocols like TCP, which provides error-checking and guarantees that data arrives in order. The other functions mentioned, such as managing encryption, moving packets between networks, and identifying devices, are handled at different levels of the OSI model. Encryption is typically managed at the Presentation layer, packet routing occurs at the Network layer, and device identification takes place at the Data Link layer. Thus, the focus on data segmentation at the Transport layer is key to its role in the OSI model.

9. If a VM has 2 or fewer vCPUs, what is the maximum number of NICs it can have?

- A. 1**
- B. 2
- C. 4
- D. 8

In Google Cloud, the limitations on virtual machines (VMs) regarding the number of network interface cards (NICs) depend on the configuration of the VM's virtual CPUs (vCPUs). For a VM with 2 or fewer vCPUs, the maximum number of NICs that it can support is limited to one. This restriction exists primarily to ensure efficient resource allocation and network throughput. When VMs are configured with fewer vCPUs, they generally handle lower workloads, which correlates with the need for only a single NIC. Utilizing additional NICs on such VMs would not significantly enhance network performance or capability, making this constraint logical in terms of resource management. When VMs are provisioned with more vCPUs, they can support more NICs. However, in this scenario, the capability is capped at one NIC for VMs with 2 or fewer vCPUs, making it essential for users to plan their VM configurations according to their performance and network needs.

10. What is the maximum capacity for a single VLAN in terms of packets per second?

- A. 10 Gbps
- B. 2.5M packets per second
- C. 1.25M packets per second**
- D. 5M packets per second

The correct answer indicates that a single VLAN can handle a maximum capacity of 1.25 million packets per second. This value is significant because it reflects the performance characteristics of VLANs within the Google Cloud infrastructure, particularly in environments that require high throughput and efficient packet handling. Understanding the context of VLANs is essential; they are used to segment networks into separate broadcast domains, allowing for improved management and enhanced security. The capacity, in this case, is closely tied to the underlying network hardware and configuration within Google Cloud's services. A maximum of 1.25 million packets per second is indicative of the limitations imposed by the network equipment that often drives the performance of virtualized environments. This threshold ensures that any traffic traversing the VLAN does not exceed capabilities, thereby maintaining consistent performance across cloud services. A higher packet-per-second capacity may require advanced hardware solutions or specific configurations, which is why the other options present figures that do not align with the standard capabilities defined for a VLAN. The correct answer thus underscores the importance of understanding network performance metrics within cloud platforms.

Next Steps

Congratulations on reaching the final section of this guide. You've taken a meaningful step toward passing your certification exam and advancing your career.

As you continue preparing, remember that consistent practice, review, and self-reflection are key to success. Make time to revisit difficult topics, simulate exam conditions, and track your progress along the way.

If you need help, have suggestions, or want to share feedback, we'd love to hear from you. Reach out to our team at hello@examzify.com.

Or visit your dedicated course page for more study tools and resources:

<https://googlecloudprofessionalcloudnetengr.examzify.com>

We wish you the very best on your exam journey. You've got this!

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