

# Google

## Exam Questions Professional-Cloud-Architect

Google Certified Professional - Cloud Architect (GCP)



### NEW QUESTION 1

- (Topic 2)

For this question, refer to the TerramEarth case study

Your development team has created a structured API to retrieve vehicle data. They want to allow third parties to develop tools for dealerships that use this vehicle event data. You want to support delegated authorization against this data. What should you do?

- A. Build or leverage an OAuth-compatible access control system.
- B. Build SAML 2.0 SSO compatibility into your authentication system.
- C. Restrict data access based on the source IP address of the partner systems.
- D. Create secondary credentials for each dealer that can be given to the trusted third party.

**Answer:** A

#### Explanation:

<https://cloud.google.com/appengine/docs/flexible/go/authorizing-apps>

[https://cloud.google.com/docs/enterprise/best-practices-for-enterprise-organizations#delegate\\_application\\_authorization\\_with\\_oauth2](https://cloud.google.com/docs/enterprise/best-practices-for-enterprise-organizations#delegate_application_authorization_with_oauth2)

Delegate application authorization with OAuth2

Cloud Platform APIs support OAuth 2.0, and scopes provide granular authorization over the methods that are supported. Cloud Platform supports both service-account and user-account OAuth, also called three-legged OAuth.

References: [https://cloud.google.com/docs/enterprise/best-practices-for-enterprise-organizations#delegate\\_application\\_authorization\\_with\\_oauth2](https://cloud.google.com/docs/enterprise/best-practices-for-enterprise-organizations#delegate_application_authorization_with_oauth2)

<https://cloud.google.com/appengine/docs/flexible/go/authorizing-apps>

### NEW QUESTION 2

- (Topic 2)

For this question, refer to the TerramEarth case study.

To speed up data retrieval, more vehicles will be upgraded to cellular connections and be able to transmit data to the ETL process. The current FTP process is error-prone and restarts the data transfer from the start of the file when connections fail, which happens often. You want to improve the reliability of the solution and minimize data transfer time on the cellular connections. What should you do?

- A. Use one Google Container Engine cluster of FTP server
- B. Save the data to a Multi-Regional bucket
- C. Run the ETL process using data in the bucket.
- D. Use multiple Google Container Engine clusters running FTP servers located in different region
- E. Save the data to Multi-Regional buckets in us, eu, and asi
- F. Run the ETL process using the data in the bucket.
- G. Directly transfer the files to different Google Cloud Multi-Regional Storage bucket locations in us, eu, and asia using Google APIs over HTTP(S). Run the ETL process using the data in the bucket.
- H. Directly transfer the files to a different Google Cloud Regional Storage bucket location in us, eu, and asia using Google APIs over HTTP(S). Run the ETL process to retrieve the data from each Regional bucket.

**Answer:** D

#### Explanation:

<https://cloud.google.com/storage/docs/locations>

### NEW QUESTION 3

- (Topic 2)

Your agricultural division is experimenting with fully autonomous vehicles.

You want your architecture to promote strong security during vehicle operation. Which two architecture should you consider?

Choose 2 answers:

- A. Treat every micro service call between modules on the vehicle as untrusted.
- B. Require IPv6 for connectivity to ensure a secure address space.
- C. Use a trusted platform module (TPM) and verify firmware and binaries on boot.
- D. Use a functional programming language to isolate code execution cycles.
- E. Use multiple connectivity subsystems for redundancy.
- F. Enclose the vehicle's drive electronics in a Faraday cage to isolate chips.

**Answer:** AC

### NEW QUESTION 4

- (Topic 3)

For this question, refer to the JencoMart case study.

JencoMart wants to move their User Profiles database to Google Cloud Platform. Which Google Database should they use?

- A. Cloud Spanner
- B. Google BigQuery
- C. Google Cloud SQL
- D. Google Cloud Datastore

**Answer:** D

#### Explanation:

<https://cloud.google.com/datastore/docs/concepts/overview>

Common workloads for Google Cloud Datastore:

? User profiles

? Product catalogs

? Game state

References: <https://cloud.google.com/storage-options/> <https://cloud.google.com/datastore/docs/concepts/overview>

### NEW QUESTION 5

- (Topic 3)

For this question, refer to the JencoMart case study.

JencoMart has decided to migrate user profile storage to Google Cloud Datastore and the application servers to Google Compute Engine (GCE). During the migration, the existing infrastructure will need access to Datastore to upload the data. What service account key- management strategy should you recommend?

- A. Provision service account keys for the on-premises infrastructure and for the GCE virtual machines (VMs).
- B. Authenticate the on-premises infrastructure with a user account and provision service account keys for the VMs.
- C. Provision service account keys for the on-premises infrastructure and use Google Cloud Platform (GCP) managed keys for the VMs
- D. Deploy a custom authentication service on GCE/Google Container Engine (GKE) for the on-premises infrastructure and use GCP managed keys for the VMs.

**Answer:** A

#### Explanation:

<https://cloud.google.com/iam/docs/understanding-service-accounts>

Migrating data to Google Cloud Platform

Let's say that you have some data processing that happens on another cloud provider and you want to transfer the processed data to Google Cloud Platform. You can use a service account from the virtual machines on the external cloud to push the data to Google Cloud Platform. To do this, you must create and download a service account key when you create the service account and then use that key from the external process to call the Cloud Platform APIs.

References: [https://cloud.google.com/iam/docs/understanding-service-accounts#migrating\\_data\\_to\\_google\\_cloud\\_platform](https://cloud.google.com/iam/docs/understanding-service-accounts#migrating_data_to_google_cloud_platform)

### NEW QUESTION 6

- (Topic 3)

For this question, refer to the JencoMart case study.

The JencoMart security team requires that all Google Cloud Platform infrastructure is deployed using a least privilege model with separation of duties for administration between production and development resources. What Google domain and project structure should you recommend?

- A. Create two G Suite accounts to manage users: one for development/test/staging and one for production
- B. Each account should contain one project for every application.
- C. Create two G Suite accounts to manage users: one with a single project for all development applications and one with a single project for all production applications.
- D. Create a single G Suite account to manage users with each stage of each application in its own project.
- E. Create a single G Suite account to manage users with one project for the development/test/staging environment and one project for the production environment.

**Answer:** D

#### Explanation:

Note: The principle of least privilege and separation of duties are concepts that, although semantically different, are intrinsically related from the standpoint of security. The intent behind both is to prevent people from having higher privilege levels than they actually need

? Principle of Least Privilege: Users should only have the least amount of privileges required to perform their job and no more. This reduces authorization exploitation by limiting access to resources such as targets, jobs, or monitoring templates for which they are not authorized.

? Separation of Duties: Beyond limiting user privilege level, you also limit user duties, or the specific jobs they can perform. No user should be given responsibility for more than one related function. This limits the ability of a user to perform a malicious action and then cover up that action.

References: <https://cloud.google.com/kms/docs/separation-of-duties>

### NEW QUESTION 7

- (Topic 3)

For this question, refer to the JencoMart case study

A few days after JencoMart migrates the user credentials database to Google Cloud Platform and shuts down the old server, the new database server stops responding to SSH connections. It is still serving database requests to the application servers correctly. What three steps should you take to diagnose the problem? Choose 3 answers

- A. Delete the virtual machine (VM) and disks and create a new one.
- B. Delete the instance, attach the disk to a new VM, and investigate.
- C. Take a snapshot of the disk and connect to a new machine to investigate.
- D. Check inbound firewall rules for the network the machine is connected to.
- E. Connect the machine to another network with very simple firewall rules and investigate.
- F. Print the Serial Console output for the instance for troubleshooting, activate the interactive console, and investigate.

**Answer:** CDF

#### Explanation:

<https://cloud.google.com/compute/docs/troubleshooting/troubleshooting-ssh>

D: Handling "Unable to connect on port 22" error message Possible causes include:

There is no firewall rule allowing SSH access on the port. SSH access on port 22 is enabled on all Compute Engine instances by default. If you have disabled access, SSH from the Browser will not work. If you run sshd on a port other than 22, you need to enable the access to that port with a custom firewall rule.

The firewall rule allowing SSH access is enabled, but is not configured to allow connections from GCP Console services. Source IP addresses for browser-based SSH sessions are dynamically allocated by GCP Console and can vary from session to session.

References: <https://cloud.google.com/compute/docs/ssh-in-browser> <https://cloud.google.com/compute/docs/ssh-in-browser>

### NEW QUESTION 8

- (Topic 4)

For this question, refer to the Dress4Win case study.

Dress4Win would like to become familiar with deploying applications to the cloud by successfully deploying some applications quickly, as is. They have asked for your recommendation. What should you advise?

- A. Identify self-contained applications with external dependencies as a first move to the cloud.

- B. Identify enterprise applications with internal dependencies and recommend these as a first move to the cloud.
- C. Suggest moving their in-house databases to the cloud and continue serving requests to on-premise applications.
- D. Recommend moving their message queuing servers to the cloud and continue handling requests to on-premise applications.

**Answer:** A

**Explanation:**

<https://cloud.google.com/blog/products/gcp/the-five-phases-of-migrating-to-google-cloud-platform>

**NEW QUESTION 9**

- (Topic 4)

For this question, refer to the Dress4Win case study.

The Dress4Win security team has disabled external SSH access into production virtual machines (VMs) on Google Cloud Platform (GCP). The operations team needs to remotely manage the VMs, build and push Docker containers, and manage Google Cloud Storage objects. What can they do?

- A. Grant the operations engineers access to use Google Cloud Shell.
- B. Configure a VPN connection to GCP to allow SSH access to the cloud VMs.
- C. Develop a new access request process that grants temporary SSH access to cloud VMs when an operations engineer needs to perform a task.
- D. Have the development team build an API service that allows the operations team to execute specific remote procedure calls to accomplish their tasks.

**Answer:** A

**NEW QUESTION 10**

- (Topic 4)

For this question, refer to the Dress4Win case study.

Dress4Win has end-to-end tests covering 100% of their endpoints. They want to ensure that the move to the cloud does not introduce any new bugs. Which additional testing methods should the developers employ to prevent an outage?

- A. They should enable Google Stackdriver Debugger on the application code to show errors in the code.
- B. They should add additional unit tests and production scale load tests on their cloud staging environment.
- C. They should run the end-to-end tests in the cloud staging environment to determine if the code is working as intended.
- D. They should add canary tests so developers can measure how much of an impact the new release causes to latency.

**Answer:** B

**NEW QUESTION 10**

- (Topic 4)

For this question, refer to the Dress4Win case study.

You want to ensure Dress4Win's sales and tax records remain available for infrequent viewing by auditors for at least 10 years. Cost optimization is your top priority. Which cloud services should you choose?

- A. Google Cloud Storage Coldline to store the data, and gsutil to access the data.
- B. Google Cloud Storage Nearline to store the data, and gsutil to access the data.
- C. Google Bigtable with US or EU as location to store the data, and gcloud to access the data.
- D. BigQuery to store the data, and a web server cluster in a managed instance group to access the data.
- E. Google Cloud SQL mirrored across two distinct regions to store the data, and a Redis cluster in a managed instance group to access the data.

**Answer:** A

**Explanation:**

References: <https://cloud.google.com/storage/docs/storage-classes>

**NEW QUESTION 12**

- (Topic 4)

For this question, refer to the Dress4Win case study.

As part of Dress4Win's plans to migrate to the cloud, they want to be able to set up a managed logging and monitoring system so they can handle spikes in their traffic load.

They want to ensure that:

- The infrastructure can be notified when it needs to scale up and down to handle the ebb and flow of usage throughout the day
- Their administrators are notified automatically when their application reports errors.
- They can filter their aggregated logs down in order to debug one piece of the application across many hosts

Which Google StackDriver features should they use?

- A. Logging, Alerts, Insights, Debug
- B. Monitoring, Trace, Debug, Logging
- C. Monitoring, Logging, Alerts, Error Reporting
- D. Monitoring, Logging, Debug, Error Report

**Answer:** D

**NEW QUESTION 17**

- (Topic 5)

Your company has an application running on Compute Engine that allows users to play their favorite music. There are a fixed number of instances. Files are stored in Cloud Storage and data is streamed directly to users. Users are reporting that they sometimes need to attempt to play popular songs multiple times before they are successful. You need to improve the performance of the application. What should you do?

A.

- \* 1. Copy popular songs into CloudSQL as a blob
- \* 2. Update application code to retrieve data from CloudSQL when Cloud Storage is overloaded

- B.
- \* 1. Create a managed instance group with Compute Engine instances
  - \* 2. Create a global load balancer and configure it with two backends
  - \* Managed instance group
  - \* Cloud Storage bucket
  - \* 3. Enable Cloud CDN on the bucket backend
- C.
- \* 1. Mount the Cloud Storage bucket using gcsfuse on all backend Compute Engine instances
  - \* 2. Serve music files directly from the backend Compute Engine instance
- D.
- \* 1. Create a Cloud Filestore NFS volume and attach it to the backend Compute Engine instances
  - \* 2. Download popular songs in Cloud Filestore
  - \* 3. Serve music files directly from the backend Compute Engine instance

A.

**Answer: B**

#### NEW QUESTION 22

- (Topic 5)

You need to ensure reliability for your application and operations by supporting reliable task scheduling for compute on GCP. Leveraging Google best practices, what should you do?

- A. Using the Cron service provided by App Engine, publishing messages directly to a message-processing utility service running on Compute Engine instances.
- B. Using the Cron service provided by App Engine, publish messages to a Cloud Pub/Sub topic
- C. Subscribe to that topic using a message-processing utility service running on Compute Engine instances.
- D. Using the Cron service provided by Google Kubernetes Engine (GKE), publish messages directly to a message-processing utility service running on Compute Engine instances.
- E. Using the Cron service provided by GKE, publish messages to a Cloud Pub/Sub topic
- F. Subscribe to that topic using a message-processing utility service running on Compute Engine instances.

**Answer: B**

#### Explanation:

<https://cloud.google.com/solutions/reliable-task-scheduling-compute-engine>

#### NEW QUESTION 27

- (Topic 5)

The application reliability team at your company has added a debug feature to their backend service to send all server events to Google Cloud Storage for eventual analysis. The event records are at least 50 KB and at most 15 MB and are expected to peak at 3,000 events per second. You want to minimize data loss. Which process should you implement?

- A. • Append metadata to file body. • Compress individual files. • Name files with serverName-Timestamp. • Create a new bucket if bucket is older than 1 hour and save individual files to the new bucket
- B. Otherwise, save files to existing bucket
- C. • Batch every 10,000 events with a single manifest file for metadata. • Compress event files and manifest file into a single archive file. • Name files using serverName-EventSequence. • Create a new bucket if bucket is older than 1 day and save the single archive file to the new bucket
- D. Otherwise, save the single archive file to existing bucket.
- E. • Compress individual files. • Name files with serverName-EventSequence. • Save files to one bucket • Set custom metadata headers for each object after saving.
- F. • Append metadata to file body. • Compress individual files. • Name files with a random prefix pattern. • Save files to one bucket

**Answer: D**

#### Explanation:

In order to maintain a high request rate, avoid using sequential names. Using completely random object names will give you the best load distribution. Randomness after a common prefix is effective under the prefix <https://cloud.google.com/storage/docs/request-rate>

#### NEW QUESTION 31

- (Topic 5)

Your BigQuery project has several users. For audit purposes, you need to see how many queries each user ran in the last month.

- A. Connect Google Data Studio to BigQuery
- B. Create a dimension for the users and a metric for the amount of queries per user.
- C. In the BigQuery interface, execute a query on the JOBS table to get the required information.
- D. Use 'bq show' to list all jobs
- E. Per job, use 'bq ls' to list job information and get the required information.
- F. Use Cloud Audit Logging to view Cloud Audit Logs, and create a filter on the query operation to get the required information.

**Answer: C**

#### Explanation:

<https://cloud.google.com/bigquery/docs/managing-jobs>

#### NEW QUESTION 36

- (Topic 5)

Your company has a Google Cloud project that uses BigQuery for data warehousing on a pay-per-use basis. You want to monitor queries in real time to discover the most costly queries and which users spend the most. What should you do?

- A.  
 \* 1. Create a Cloud Logging sink to export BigQuery data access logs to Cloud Storage.  
 \* 2. Develop a Dataflow pipeline to compute the cost of queries split by users.
- B.  
 \* 1. Create a Cloud Logging sink to export BigQuery data access logs to BigQuery.  
 \* 2. Perform a BigQuery query on the generated table to extract the information you need.
- C.  
 \* 1. Activate billing export into BigQuery.  
 \* 2. Perform a BigQuery query on the billing table to extract the information you need.
- D.  
 \* 1. In the BigQuery dataset that contains all the tables to be queried, add a label for each user that can launch a query.  
 \* 2. Open the Billing page of the project.  
 \* 3. Select Reports.  
 \* 4. Select BigQuery as the product and filter by the user you want to check.

A.

**Answer: C**

**Explanation:**

<https://cloud.google.com/blog/products/data-analytics/taking-a-practical-approach-to-bigquery-cost-monitoring>

**NEW QUESTION 39**

- (Topic 5)

Your company has just recently activated Cloud Identity to manage users. The Google Cloud Organization has been configured as well. The security team needs to secure protects that will be part of the Organization. They want to prohibit IAM users outside the domain from gaining permissions from now on. What should they do?

- A. Configure an organization policy to restrict identities by domain  
 B. Configure an organization policy to block creation of service accounts  
 C. Configure Cloud Scheduler to trigger a Cloud Function every hour that removes all users that don't belong to the Cloud identity domain from all projects.  
 D. Create a technical user (e.g. crawler@yourdomain.com), and give it the protect owner role at root organization level. Write a bash script that lists all the IAM rules of all projects within the organization. Deletes all users that do not belong to the company domain. Create a Compute Engine instance in a project within the Organization and configure gcloud to be executed with technical user credentials. Configure a cron job that executes the bash script every hour.

**Answer: A**

**Explanation:**

<https://cloud.google.com/resource-manager/docs/organization-policy/restricting-domains>

**NEW QUESTION 43**

- (Topic 5)

You are helping the QA team to roll out a new load-testing tool to test the scalability of your primary cloud services that run on Google Compute Engine with Cloud Bigtable. Which three requirements should they include? Choose 3 answers

- A. Ensure that the load tests validate the performance of Cloud Bigtable.  
 B. Create a separate Google Cloud project to use for the load-testing environment.  
 C. Schedule the load-testing tool to regularly run against the production environment.  
 D. Ensure all third-party systems your services use are capable of handling high load.  
 E. Instrument the production services to record every transaction for replay by the load-testing tool.  
 F. Instrument the load-testing tool and the target services with detailed logging and metrics collection.

**Answer: ABF**

**NEW QUESTION 46**

- (Topic 5)

You are developing your microservices application on Google Kubernetes Engine. During testing, you want to validate the behavior of your application in case a specific microservice should suddenly crash. What should you do?

- A. Add a taint to one of the nodes of the Kubernetes cluster  
 B. For the specific microservice, configure a pod anti-affinity label that has the name of the tainted node as a value.  
 C. Use Istio's fault injection on the particular microservice whose faulty behavior you want to simulate.  
 D. Destroy one of the nodes of the Kubernetes cluster to observe the behavior.  
 E. Configure Istio's traffic management features to steer the traffic away from a crashing microservice.

**Answer: B**

**Explanation:**

Microservice runs on all nodes. The Micro service runs on Pod, Pod runs on Nodes. Nodes is nothing but Virtual machines. Once deployed the application microservices will get deployed across all Nodes. Destroying one node may not mimic the behaviour of microservice crashing as it may be running in other nodes. link: <https://istio.io/latest/docs/tasks/traffic-management/fault-injection/>

**NEW QUESTION 47**

- (Topic 5)

You are working in a highly secured environment where public Internet access from the Compute Engine VMs is not allowed. You do not yet have a VPN connection to access an on-premises file server. You need to install specific software on a Compute Engine instance. How should you install the software?

- A. Upload the required installation files to Cloud Storage

- B. Configure the VM on a subnet with a Private Google Access subne
- C. Assign only an internal IP address to the V
- D. Download the installation files to the VM using gsutil.
- E. Upload the required installation files to Cloud Storage and use firewall rules to block all traffic except the IP address range for Cloud Storag
- F. Download the files to the VM using gsutil.
- G. Upload the required installation files to Cloud Source Repositorie
- H. Configure the VM on a subnet with a Private Google Access subne
- I. Assign only an internal IP address to the V
- J. Download the installation files to the VM using gcloud.
- K. Upload the required installation files to Cloud Source Repositories and use firewall rules to block all traffic except the IP address range for Cloud Source Repositorie
- L. Download the files to the VM using gsutil.

**Answer:** A

**Explanation:**

<https://cloud.google.com/vpc/docs/private-access-options#pga-supported>

**NEW QUESTION 50**

- (Topic 5)

You have deployed an application on Anthos clusters (formerly Anthos GKE). According to the SRE practices at your company you need to be alerted if the request latency is above a certain threshold for a specified amount of time. What should you do?

- A. Enable the Cloud Trace API on your project and use Cloud Monitoring Alerts to send an alert based on the Cloud Trace metrics
- B. Configure Anthos Config Management on your cluster and create a yaml file that defines the SLO and alerting policy you want to deploy in your cluster
- C. Use Cloud Profiler to follow up the request latenc
- D. Create a custom metric in Cloud Monitoring based on the results of Cloud Profiler, and create an Alerting Policy in case this metric exceeds the threshold
- E. Install Anthos Service Mesh on your cluste
- F. Use the Google Cloud Console to define a Service Level Objective (SLO)

**Answer:** D

**Explanation:**

<https://cloud.google.com/service-mesh/docs/overview> <https://cloud.google.com/service-mesh/docs/observability/slo-overview>

**NEW QUESTION 54**

- (Topic 5)

Your solution is producing performance bugs in production that you did not see in staging and test environments. You want to adjust your test and deployment procedures to avoid this problem in the future. What should you do?

- A. Deploy fewer changes to production.
- B. Deploy smaller changes to production.
- C. Increase the load on your test and staging environments.
- D. Deploy changes to a small subset of users before rolling out to production.

**Answer:** C

**NEW QUESTION 58**

- (Topic 5)

Your organization has stored sensitive data in a Cloud Storage bucket. For regulatory reasons, your company must be able to rotate the encryption key used to encrypt the data in the bucket. The data will be processed in Dataproc. You want to follow Google- recommended practices for security What should you do?

- A. Create a key with Cloud Key Management Service (KMS) Encrypt the data using the encrypt method of Cloud KMS.
- B. Create a key with Cloud Key Management Service (KMS). Set the encryption key on the bucket to the Cloud KMS key.
- C. Generate a GPG key pai
- D. Encrypt the data using the GPG ke
- E. Upload the encrypted data to the bucket.
- F. Generate an AES-256 encryption ke
- G. Encrypt the data in the bucket using the customer-supplied encryption keys feature.

**Answer:** AD

**Explanation:**

<https://cloud.google.com/storage/docs/encryption/using-customer-managed-keys#add-object-key>  
<https://cloud.google.com/storage/docs/encryption/using-customer-managed-keys>

**NEW QUESTION 61**

- (Topic 5)

Your customer wants to do resilience testing of their authentication layer. This consists of a regional managed instance group serving a public REST API that reads from and writes to a Cloud SQL instance. What should you do?

- A. Engage with a security company to run web scrapes that look your users' authentication data om malicious websites and notify you if any if found.
- B. Deploy intrusion detection software to your virtual machines to detect and log unauthorized access.
- C. Schedule a disaster simulation exercise during which you can shut off all VMs in a zone to see how your application behaves.
- D. Configure a red replica for your Cloud SQL instance in a different zone than the master, and then manually trigger a failover while monitoring KPIs for our REST API.

**Answer:** C

### NEW QUESTION 66

- (Topic 5)

You need to set up Microsoft SQL Server on GCP. Management requires that there's no downtime in case of a data center outage in any of the zones within a GCP region. What should you do?

- A. Configure a Cloud SQL instance with high availability enabled.
- B. Configure a Cloud Spanner instance with a regional instance configuration.
- C. Set up SQL Server on Compute Engine, using Always On Availability Groups using Windows FailoverClusterin
- D. Place nodes in different subnets.
- E. Set up SQL Server Always On Availability Groups using Windows Failover Clusterin
- F. Place nodes in different zones.

**Answer: D**

#### Explanation:

<https://cloud.google.com/sql/docs/sqlserver/configure-ha>

### NEW QUESTION 71

- (Topic 5)

One of the developers on your team deployed their application in Google Container Engine with the Dockerfile below. They report that their application deployments are taking too long.

```
FROM ubuntu:16.04

COPY . /src

RUN apt-get update && apt-get install -y python python-pip

RUN pip install -r requirements.txt
```

You want to optimize this Dockerfile for faster deployment times without adversely affecting the app's functionality. Which two actions should you take? Choose 2 answers.

- A. Remove Python after running pip.
- B. Remove dependencies from requirements.txt.
- C. Use a slimmed-down base image like Alpine linux.
- D. Use larger machine types for your Google Container Engine node pools.
- E. Copy the source after the package dependencies (Python and pip) are installed.

**Answer: CE**

#### Explanation:

The speed of deployment can be changed by limiting the size of the uploaded app, limiting the complexity of the build necessary in the Dockerfile, if present, and by ensuring a fast and reliable internet connection.

Note: Alpine Linux is built around musl libc and busybox. This makes it smaller and more resource efficient than traditional GNU/Linux distributions. A container requires no more

than 8 MB and a minimal installation to disk requires around 130 MB of storage. Not only do you get a fully-fledged Linux environment but a large selection of packages from the repository.

References: <https://groups.google.com/forum/#!topic/google-appengine/hZMEkmmObDU> <https://www.alpinelinux.org/about/>

### NEW QUESTION 73

- (Topic 5)

Your operations team has asked you to help diagnose a performance issue in a production application that runs on Compute Engine. The application is dropping requests that reach it when under heavy load. The process list for affected instances shows a single application process that is consuming all available CPU, and autoscaling has reached the upper limit of instances. There is no abnormal load on any other related systems, including the database. You want to allow production traffic to be served again as quickly as possible. Which action should you recommend?

- A. Change the autoscaling metric to agent.googleapis.com/memory/percent\_used.
- B. Restart the affected instances on a staggered schedule.
- C. SSH to each instance and restart the application process.
- D. Increase the maximum number of instances in the autoscaling group.

**Answer: D**

#### Explanation:

Reference: <https://cloud.google.com/blog/products/sap-google-cloud/best-practices-for-sap-app-server-autoscaling-on-google-cloud>

### NEW QUESTION 77

- (Topic 5)

Your company has an application that is running on multiple instances of Compute Engine. It generates 1 TB per day of logs. For compliance reasons, the logs need to be kept for at least two years. The logs need to be available for active query for 30 days. After that, they just need to be retained for audit purposes. You want to implement a storage solution that is compliant, minimizes costs, and follows Google-recommended practices. What should you do?

- A.
  - \* 1. Install the Cloud Ops agent on all instances.
  - \* 2. Create a sink to export logs into a partitioned BigQuery table.
  - \* 3. Set a time\_partitioning\_expiration of 30 days.
- B.
  - \* 1. Install the Cloud Ops agent on all instances.
  - \* 2. Create a sink to export logs into a regional Cloud Storage bucket.
  - \* 3. Create an Object Lifecycle rule to move files into a Coldline Cloud Storage bucket after one month.

- \* 4. Configure a retention policy at the bucket level to create a lock.
- C.
- \* 1. Create a daily cron job, running on all instances, that uploads logs into a partitioned BigQuery table.
- \* 2. Set a time\_partitioning\_expiration of 30 days.
- D.
- \* 1. Write a daily cron job, running on all instances, that uploads logs into a Cloud Storage bucket.
- \* 2. Create a sink to export logs into a regional Cloud Storage bucket.
- \* 3. Create an Object Lifecycle rule to move files into a Coldline Cloud Storage bucket after one month.
- A.

**Answer: B**

**Explanation:**

The practice for managing logs generated on Compute Engine on Google Cloud is to install the Cloud Logging agent and send them to Cloud Logging. The sent logs will be aggregated into a Cloud Logging sink and exported to Cloud Storage. The reason for using Cloud Storage as the destination for the logs is that the requirement in question requires setting up a lifecycle based on the storage period. In this case, the log will be used for active queries for 30 days after it is saved, but after that, it needs to be stored for a longer period of time for auditing purposes. If the data is to be used for active queries, we can use BigQuery's Cloud Storage data query feature and move the data past 30 days to Coldline to build a cost-optimal solution.

Therefore, the correct answer is as follows

- \* 1. Install the Cloud Logging agent on all instances.  
Create a sync that exports the logs to the region's Cloud Storage bucket.
- \* 3. Create an Object Lifecycle rule to move the files to the Coldline Cloud Storage bucket after one month. \* 4.
- \* 4. set up a bucket-level retention policy using bucket locking."

**NEW QUESTION 82**

- (Topic 5)

Your organization requires that metrics from all applications be retained for 5 years for future analysis in possible legal proceedings. Which approach should you use?

- A. Grant the security team access to the logs in each Project.
- B. Configure Stackdriver Monitoring for all Projects, and export to BigQuery.
- C. Configure Stackdriver Monitoring for all Projects with the default retention policies.
- D. Configure Stackdriver Monitoring for all Projects, and export to Google Cloud Storage.

**Answer: D**

**Explanation:**

Overview of storage classes, price, and use cases <https://cloud.google.com/storage/docs/storage-classes>

Why export logs? <https://cloud.google.com/logging/docs/export/>

StackDriver Quotas and Limits for Monitoring <https://cloud.google.com/monitoring/quotas> The BigQuery pricing. <https://cloud.google.com/bigquery/pricing>

**NEW QUESTION 83**

- (Topic 5)

To reduce costs, the Director of Engineering has required all developers to move their development infrastructure resources from on-premises virtual machines (VMs) to Google Cloud Platform. These resources go through multiple start/stop events during the day and require state to persist. You have been asked to design the process of running a development environment in Google Cloud while providing cost visibility to the finance department. Which two steps should you take? Choose 2 answers

- A. Use the --no-auto-delete flag on all persistent disks and stop the VM.
- B. Use the -auto-delete flag on all persistent disks and terminate the VM.
- C. Apply VM CPU utilization label and include it in the BigQuery billing export.
- D. Use Google BigQuery billing export and labels to associate cost to groups.
- E. Store all state into local SSD, snapshot the persistent disks, and terminate the VM.
- F. Store all state in Google Cloud Storage, snapshot the persistent disks, and terminate the VM.

**Answer: AD**

**Explanation:**

<https://cloud.google.com/billing/docs/how-to/export-data-bigquery>

**NEW QUESTION 84**

- (Topic 5)

You need to design a solution for global load balancing based on the URL path being requested. You need to ensure operations reliability and end-to-end in-transit encryption based on Google best practices. What should you do?

- A. Create a cross-region load balancer with URL Maps.
- B. Create an HTTPS load balancer with URL maps.
- C. Create appropriate instance groups and instance
- D. Configure SSL proxy load balancing.
- E. Create a global forwarding rule
- F. Configure SSL proxy balancing.

**Answer: B**

**Explanation:**

Reference <https://cloud.google.com/load-balancing/docs/https/url-map>

#### NEW QUESTION 85

- (Topic 5)

You need to upload files from your on-premises environment to Cloud Storage. You want the files to be encrypted on Cloud Storage using customer-supplied encryption keys. What should you do?

- A. Supply the encryption key in a .boto configuration file
- B. Use gsutil to upload the files.
- C. Supply the encryption key using gcloud confi
- D. Use gsutil to upload the files to that bucket.
- E. Use gsutil to upload the files, and use the flag --encryption-key to supply the encryption key.
- F. Use gsutil to create a bucket, and use the flag --encryption-key to supply the encryption key
- G. Use gsutil to upload the files to that bucket.

**Answer:** A

#### Explanation:

<https://cloud.google.com/storage/docs/encryption/customer-supplied-keys#gsutil>

#### NEW QUESTION 88

- (Topic 5)

Your company creates rendering software which users can download from the company website. Your company has customers all over the world. You want to minimize latency for all your customers. You want to follow Google-recommended practices. How should you store the files?

- A. Save the files in a Multi-Regional Cloud Storage bucket.
- B. Save the files in a Regional Cloud Storage bucket, one bucket per zone of the region.
- C. Save the files in multiple Regional Cloud Storage buckets, one bucket per zone per region.
- D. Save the files in multiple Multi-Regional Cloud Storage buckets, one bucket per multi-region.

**Answer:** A

#### Explanation:

<https://cloud.google.com/storage/docs/locations#location-mr>

#### NEW QUESTION 92

- (Topic 5)

You are implementing a single Cloud SQL MySQL second-generation database that contains business-critical transaction data. You want to ensure that the minimum amount of data is lost in case of catastrophic failure. Which two features should you implement? (Choose two.)

- A. Sharding
- B. Read replicas
- C. Binary logging
- D. Automated backups
- E. Semisynchronous replication

**Answer:** CD

#### Explanation:

Backups help you restore lost data to your Cloud SQL instance. Additionally, if an instance is having a problem, you can restore it to a previous state by using the backup to overwrite it. Enable automated backups for any instance that contains necessary data. Backups protect your data from loss or damage.

Enabling automated backups, along with binary logging, is also required for some operations, such as clone and replica creation.

Reference: <https://cloud.google.com/sql/docs/mysql/backup-recovery/backups>

#### NEW QUESTION 96

- (Topic 5)

You have an application that runs in Google Kubernetes Engine (GKE). Over the last 2 weeks, customers have reported that a specific part of the application returns errors very frequently. You currently have no logging or monitoring solution enabled on your GKE cluster. You want to diagnose the problem, but you have not been able to replicate the issue. You want to cause minimal disruption to the application. What should you do?

- A. \* 1. Update your GKE cluster to use Cloud Operations for GKE.\* 2. Use the GKE Monitoring dashboard to investigate logs from affected Pods.
- B. \* 1. Create a new GKE cluster with Cloud Operations for GKE enabled.\* 2. Migrate the affected Pods to the new cluster, and redirect traffic for those Pods to the new cluster.\* 3. Use the GKE Monitoring dashboard to investigate logs from affected Pods.
- C. \* 1. Update your GKE cluster to use Cloud Operations for GKE, and deploy Prometheus.\* 2. Set an alert to trigger whenever the application returns an error.
- D. \* 1. Create a new GKE cluster with Cloud Operations for GKE enabled, and deploy Prometheus.\* 2. Migrate the affected Pods to the new cluster, and redirect traffic for those Pods to the new cluster.\* 3. Set an alert to trigger whenever the application returns an error.

**Answer:** A

#### Explanation:

Reference: <https://cloud.google.com/blog/products/management-tools/using-logging-your-apps-running-kubernetes-engine>

#### NEW QUESTION 99

- (Topic 5)

Your company is migrating its on-premises data center into the cloud. As part of the migration, you want to integrate Kubernetes Engine for workload orchestration. Parts of your architecture must also be PCI DSS compliant.

Which of the following is most accurate?

- A. App Engine is the only compute platform on GCP that is certified for PCI DSS hosting.

- B. Kubernetes Engine cannot be used under PCI DSS because it is considered shared hosting.
- C. Kubernetes Engine and GCP provide the tools you need to build a PCI DSS-compliant environment.
- D. All Google Cloud services are usable because Google Cloud Platform is certified PCI-compliant.

**Answer:** D

**Explanation:**

<https://cloud.google.com/security/compliance/pci-dss>

**NEW QUESTION 102**

- (Topic 5)

You are deploying an application to Google Cloud. The application is part of a system. The application in Google Cloud must communicate over a private network with applications in a non-Google Cloud environment. The expected average throughput is 200 kbps. The business requires:

- 99.99% system availability
- cost optimization

You need to design the connectivity between the locations to meet the business requirements. What should you provision?

- A. A Classic Cloud VPN gateway connected with one tunnel to an on-premises VPN gateway.
- B. A Classic Cloud VPN gateway connected with two tunnels to an on-premises VPN gateway.
- C. An HA Cloud VPN gateway connected with two tunnels to an on-premises VPN gateway.
- D. Two HA Cloud VPN gateways connected to two on-premises VPN gateway
- E. Configure each HA CloudVPN gateway to have two tunnels, each connected to different on-premises VPN gateways.

**Answer:** C

**Explanation:**

[https://cloud.google.com/network-connectivity/docs/vpn/concepts/topologies#configurations\\_that\\_support\\_9999\\_availability](https://cloud.google.com/network-connectivity/docs/vpn/concepts/topologies#configurations_that_support_9999_availability)

**NEW QUESTION 105**

- (Topic 5)

Your team will start developing a new application using microservices architecture on Kubernetes Engine. As part of the development lifecycle, any code change that has been pushed to the remote develop branch on your GitHub repository should be built and tested automatically. When the build and test are successful, the relevant microservice will be deployed automatically in the development environment. You want to ensure that all code deployed in the development environment follows this process. What should you do?

- A. Have each developer install a pre-commit hook on their workstation that tests the code and builds the container when committing on the development branch
- B. After a successful commit, have the developer deploy the newly built container image on the development cluster.
- C. Install a post-commit hook on the remote git repository that tests the code and builds the container when code is pushed to the development branch
- D. After a successful commit, have the developer deploy the newly built container image on the development cluster.
- E. Create a Cloud Build trigger based on the development branch that tests the code, builds the container, and stores it in Container Registry
- F. Create a deployment pipeline that watches for new images and deploys the new image on the development cluster
- G. Ensure only the deployment tool has access to deploy new versions.
- H. Create a Cloud Build trigger based on the development branch to build a new container image and store it in Container Registry
- I. Rely on Vulnerability Scanning to ensure the code tests succeed
- J. As the final step of the Cloud Build process, deploy the new container image on the development cluster
- K. Ensure only Cloud Build has access to deploy new versions.

**Answer:** C

**Explanation:**

<https://cloud.google.com/container-registry/docs/overview>

Create a Cloud Build trigger based on the development branch that tests the code, builds the container, and stores it in Container Registry. Create a deployment pipeline that watches for new images and deploys the new image on the development cluster. Ensure only the deployment tool has access to deploy new versions.

**NEW QUESTION 109**

- (Topic 5)

Your company uses Google Kubernetes Engine (GKE) as a platform for all workloads. Your company has a single large GKE cluster that contains batch, stateful, and stateless workloads. The GKE cluster is configured with a single node pool with 200 nodes. Your company needs to reduce the cost of this cluster but does not want to compromise availability. What should you do?

- A. Create a second GKE cluster for the batch workloads only
- B. Allocate the 200 original nodes across both clusters.
- C. Configure a HorizontalPodAutoscaler for all stateless workloads and for all compatible stateful workload
- D. Configure the cluster to use node auto scaling.
- E. Configure CPU and memory limits on the namespaces in the cluster
- F. Configure all Pods to have a CPU and memory limits.
- G. Change the node pool to use spot VMs.

**Answer:** C

**Explanation:**

One way to reduce the cost of a Google Kubernetes Engine (GKE) cluster without compromising availability is to use horizontal pod autoscalers (HPA) and node auto scaling. HPA allows you to automatically scale the number of Pods in a deployment based on the resource usage of the Pods. By configuring HPA for stateless workloads and for compatible stateful workloads, you can ensure that the number of Pods is automatically adjusted based on the actual resource usage, which can help to reduce costs. Node auto scaling allows you to automatically add or remove nodes from the node pool based on the resource usage of the cluster. By configuring node auto scaling, you can ensure that the cluster has the minimum number of nodes needed to meet the resource requirements of the workloads, which can also help to reduce costs.

**NEW QUESTION 113**

- (Topic 5)

Google Cloud Platform resources are managed hierarchically using organization, folders, and projects. When Cloud Identity and Access Management (IAM) policies exist at these different levels, what is the effective policy at a particular node of the hierarchy?

- A. The effective policy is determined only by the policy set at the node
- B. The effective policy is the policy set at the node and restricted by the policies of its ancestors
- C. The effective policy is the union of the policy set at the node and policies inherited from its ancestors
- D. The effective policy is the intersection of the policy set at the node and policies inherited from its ancestors

**Answer: B**

**Explanation:**

Reference: <https://cloud.google.com/resource-manager/docs/cloud-platform-resource-hierarchy>

#### NEW QUESTION 117

- (Topic 5)

Your company is building a new architecture to support its data-centric business focus. You are responsible for setting up the network. Your company's mobile and web-facing applications will be deployed on-premises, and all data analysis will be conducted in GCP. The plan is to process and load 7 years of archived .csv files totaling 900 TB of data and then continue loading 10 TB of data daily. You currently have an existing 100-MB internet connection. What actions will meet your company's needs?

- A. Compress and upload both archived files and files uploaded daily using the `gsutil -m` option.
- B. Lease a Transfer Appliance, upload archived files to it, and send it, and send it to Google to transfer archived data to Cloud Storage
- C. Establish a connection with Google using a Dedicated Interconnect or Direct Peering connection and use it to upload files daily.
- D. Lease a Transfer Appliance, upload archived files to it, and send it, and send it to Google to transfer archived data to Cloud Storage
- E. Establish one Cloud VPN Tunnel to VPC networks over the public internet, and compress and upload files daily using the `gsutil -m` option.
- F. Lease a Transfer Appliance, upload archived files to it, and send it to Google to transfer archived data to Cloud Storage
- G. Establish a Cloud VPN Tunnel to VPC networks over the public internet, and compress and upload files daily.

**Answer: B**

**Explanation:**

<https://cloud.google.com/interconnect/docs/how-to/direct-peering>

#### NEW QUESTION 121

- (Topic 5)

You are working at a financial institution that stores mortgage loan approval documents on Cloud Storage. Any change to these approval documents must be uploaded as a separate approval file, so you want to ensure that these documents cannot be deleted or overwritten for the next 5 years. What should you do?

- A. Create a retention policy on the bucket for the duration of 5 year
- B. Create a lock on the retention policy.
- C. Create the bucket with uniform bucket-level access, and grant a service account the role of Object Write
- D. Use the service account to upload new files.
- E. Use a customer-managed key for the encryption of the bucket
- F. Rotate the key after 5 years.
- G. Create the bucket with fine-grained access control, and grant a service account the role of Object Write
- H. Use the service account to upload new files.

**Answer: A**

**Explanation:**

Reference: <https://cloud.google.com/storage/docs/using-bucket-lock>

#### NEW QUESTION 125

- (Topic 5)

An application development team has come to you for advice. They are planning to write and deploy an HTTP(S) API using Go 1.12. The API will have a very unpredictable workload and must remain reliable during peaks in traffic. They want to minimize operational overhead for this application. What approach should you recommend?

- A. Use a Managed Instance Group when deploying to Compute Engine
- B. Develop an application with containers, and deploy to Google Kubernetes Engine (GKE)
- C. Develop the application for App Engine standard environment
- D. Develop the application for App Engine Flexible environment using a custom runtime

**Answer: C**

**Explanation:**

<https://cloud.google.com/appengine/docs/the-appengine-environments>

#### NEW QUESTION 126

- (Topic 5)

Your customer support tool logs all email and chat conversations to Cloud Bigtable for retention and analysis. What is the recommended approach for sanitizing this data of personally identifiable information or payment card information before initial storage?

- A. Hash all data using SHA256
- B. Encrypt all data using elliptic curve cryptography
- C. De-identify the data with the Cloud Data Loss Prevention API
- D. Use regular expressions to find and redact phone numbers, email addresses, and credit card numbers

**Answer:** A

**Explanation:**

Reference: <https://cloud.google.com/solutions/pai-dss-compliance-ingcp#>

**NEW QUESTION 130**

- (Topic 5)

You have created several preemptible Linux virtual machine instances using Google Compute Engine. You want to properly shut down your application before the virtual machines are preempted. What should you do?

- A. Create a shutdown script named k99.shutdown in the /etc/rc.6.d/ directory.
- B. Create a shutdown script registered as a xinetd service in Linux and configure a Stackdriver endpoint check to call the service.
- C. Create a shutdown script and use it as the value for a new metadata entry with the key shutdown-script in the Cloud Platform Console when you create the new virtual machine instance.
- D. Create a shutdown script, registered as a xinetd service in Linux, and use the gcloud compute instances add-metadata command to specify the service URL as the value for a new metadata entry with the key shutdown-script-url

**Answer:** C

**NEW QUESTION 134**

- (Topic 5)

Your company has a stateless web API that performs scientific calculations. The web API runs on a single Google Kubernetes Engine (GKE) cluster. The cluster is currently deployed in us-central1. Your company has expanded to offer your API to customers in Asia. You want to reduce the latency for the users in Asia. What should you do?

- A. Use a global HTTP(s) load balancer with Cloud CDN enabled
- B. Create a second GKE cluster in asia-southeast1, and expose both API's using a Service of type Load Balance
- C. Add the public IPs to the Cloud DNS zone
- D. Increase the memory and CPU allocated to the application in the cluster
- E. Create a second GKE cluster in asia-southeast1, and use kubemci to create a global HTTP(s) load balancer

**Answer:** D

**Explanation:**

[https://cloud.google.com/kubernetes-engine/docs/concepts/multi-cluster-ingress#how\\_works](https://cloud.google.com/kubernetes-engine/docs/concepts/multi-cluster-ingress#how_works)

<https://github.com/GoogleCloudPlatform/k8s-multicloud-ingress> <https://cloud.google.com/blog/products/gcp/how-to-deploy-geographically-distributed-services-on-kubernetes-engine-with-kubemci>

**NEW QUESTION 136**

- (Topic 5)

You need to deploy an application to Google Cloud. The application receives traffic via TCP and reads and writes data to the filesystem. The application does not support horizontal scaling. The application process requires full control over the data on the file system because concurrent access causes corruption. The business is willing to accept a downtime when an incident occurs, but the application must be available 24/7 to support their business operations. You need to design the architecture of this application on Google Cloud.

What should you do?

- A. Use a managed instance group with instances in multiple zones, use Cloud Filestore, and use an HTTP load balancer in front of the instances.
- B. Use a managed instance group with instances in multiple zones, use Cloud Filestore, and use a network load balancer in front of the instances.
- C. Use an unmanaged instance group with an active and standby instance in different zones, use a regional persistent disk, and use an HTTP load balancer in front of the instances.
- D. Use an unmanaged instance group with an active and standby instance in different zones, use a regional persistent disk, and use a network load balancer in front of the instances.

**Answer:** D

**Explanation:**

Reference: <https://cloud.google.com/compute/docs/instance-groups>

**NEW QUESTION 137**

- (Topic 5)

You set up an autoscaling instance group to serve web traffic for an upcoming launch. After configuring the instance group as a backend service to an HTTP(S) load balancer, you notice that virtual machine (VM) instances are being terminated and re-launched every minute. The instances do not have a public IP address. You have verified the appropriate web response is coming from each instance using the curl command. You want to ensure the backend is configured correctly. What should you do?

- A. Ensure that a firewall rule exists to allow source traffic on HTTP/HTTPS to reach the load balancer.
- B. Assign a public IP to each instance and configure a firewall rule to allow the load balancer to reach the instance public IP.
- C. Ensure that a firewall rule exists to allow load balancer health checks to reach the instances in the instance group.
- D. Create a tag on each instance with the name of the load balancer
- E. Configure a firewall rule with the name of the load balancer as the source and the instance tag as the destination.

**Answer:** C

**Explanation:**

<https://cloud.google.com/vpc/docs/using-firewalls>

The best practice when configuration a health check is to check health and serve traffic on the same port. However, it is possible to perform health checks on one port, but serve traffic on another. If you do use two different ports, ensure that firewall rules and services running on instances are configured appropriately. If you run health checks and serve traffic on the same port, but decide to switch ports at some point, be sure to update both the backend service and the health check. Backend services that do not have a valid global forwarding rule referencing it will not be health checked and will have no health status.

References: <https://cloud.google.com/compute/docs/load-balancing/http/backend-service>

#### NEW QUESTION 141

- (Topic 5)

A small number of API requests to your microservices-based application take a very long time. You know that each request to the API can traverse many services. You want to know which service takes the longest in those cases. What should you do?

- A. Set timeouts on your application so that you can fail requests faster.
- B. Send custom metrics for each of your requests to Stackdriver Monitoring.
- C. Use Stackdriver Monitoring to look for insights that show when your API latencies are high.
- D. Instrument your application with Stackdriver Trace in order to break down the request latencies at each microservice.

**Answer: D**

#### Explanation:

<https://cloud.google.com/trace/docs/overview>

#### NEW QUESTION 143

- (Topic 5)

You need to migrate Hadoop jobs for your company's Data Science team without modifying the underlying infrastructure. You want to minimize costs and infrastructure management effort. What should you do?

- A. Create a Dataproc cluster using standard worker instances.
- B. Create a Dataproc cluster using preemptible worker instances.
- C. Manually deploy a Hadoop cluster on Compute Engine using standard instances.
- D. Manually deploy a Hadoop cluster on Compute Engine using preemptible instances.

**Answer: B**

#### Explanation:

Reference: <https://cloud.google.com/architecture/hadoop/hadoop-gcp-migration-jobs>

#### NEW QUESTION 145

- (Topic 5)

Your company plans to migrate a multi-petabyte data set to the cloud. The data set must be available 24hrs a day. Your business analysts have experience only with using a SQL interface. How should you store the data to optimize it for ease of analysis?

- A. Load data into Google BigQuery.
- B. Insert data into Google Cloud SQL.
- C. Put flat files into Google Cloud Storage.
- D. Stream data into Google Cloud Datastore.

**Answer: A**

#### Explanation:

Google Big Query is for multi peta byte storage , HA(High availability) which means 24 hours, SQL interface .

<https://medium.com/google-cloud/the-12-components-of-google-bigquery-c2b49829a7c7> <https://cloud.google.com/solutions/bigquery-data-warehouse>

<https://cloud.google.com/bigquery/>

BigQuery is Google's serverless, highly scalable, low cost enterprise data warehouse designed to make all your data analysts productive. Because there is no infrastructure to manage, you can focus on analyzing data to find meaningful insights using familiar SQL and you don't need a database administrator.

BigQuery enables you to analyze all your data by creating a logical data warehouse over managed, columnar storage as well as data from object storage, and spreadsheets.

References: <https://cloud.google.com/bigquery/>

#### NEW QUESTION 147

- (Topic 5)

You want to automate the creation of a managed instance group and a startup script to install the OS package dependencies. You want to minimize the startup time for VMs in the instance group.

What should you do?

- A. Use Terraform to create the managed instance group and a startup script to install the OS packagedependencies.
- B. Create a custom VM image with all OS package dependencie
- C. Use Deployment Manager to create the managed instance group with the VM image.
- D. Use Puppet to create the managed instance group and install the OS package dependencies.
- E. Use Deployment Manager to create the managed instance group and Ansible to install the OS package dependencies.

**Answer: B**

#### Explanation:

"Custom images are more deterministic and start more quickly than instances with startup scripts. However, startup scripts are more flexible and let you update the apps and settings in your instances more easily." [https://cloud.google.com/compute/docs/instance-templates/create-instance-templates#using\\_custom\\_or\\_public\\_images\\_in\\_your\\_instance\\_templates](https://cloud.google.com/compute/docs/instance-templates/create-instance-templates#using_custom_or_public_images_in_your_instance_templates)

#### NEW QUESTION 151

- (Topic 5)

You have been engaged by your client to lead the migration of their application infrastructure to GCP. One of their current problems is that the on-premises high performance SAN is requiring frequent and expensive upgrades to keep up with the variety of workloads that are identified as follows: 20TB of log archives retained for legal reasons; 500 GB of VM boot/data volumes and templates; 500 GB of image thumbnails; 200 GB of customer session state data that allows

customers to restart sessions even if off-line for several days.  
 Which of the following best reflects your recommendations for a cost-effective storage allocation?

- A. Local SSD for customer session state dat
- B. Lifecycle-managed Cloud Storage for logarchives, thumbnails, and VM boot/data volumes.
- C. Memcache backed by Cloud Datastore for the customer session state dat
- D. Lifecycle- managed CloudStorage for log archives, thumbnails, and VM boot/data volumes.
- E. Memcache backed by Cloud SQL for customer session state dat
- F. Assorted local SSD- backed instances for VM boot/data volume
- G. Cloud Storage for log archives and thumbnails.
- H. Memcache backed by Persistent Disk SSD storage for customer session state dat
- I. Assorted local SSDbacked instances for VM boot/data volume
- J. Cloud Storage for log archives and thumbnails.

**Answer:** D

**Explanation:**

<https://cloud.google.com/compute/docs/disks>

#### NEW QUESTION 156

- (Topic 5)

A news teed web service has the following code running on Google App Engine. During peak load, users report that they can see news articles they already viewed. What is the most likely cause of this problem?

```
import news
from flask import Flask, redirect, request
from flask.ext.api import status
from google.appengine.api import users

app = Flask(_name_)
sessions = {}

@app.route("/")
def homepage():
    user = users.get_current_user()
    if not user:
        return "Invalid login",
        status.HTTP_401_UNAUTHORIZED

    if user not in sessions:
        sessions[user] = {"viewed": []}

    news_articles = news.get_new_news (user, sessions [user]
["viewed"])
    sessions [user] ["viewed"] += [n["id"] for n
in news_articles]

    return news.render(news_articles)

if _name_ == "_main_":
    app.run()
```

- A. The session variable is local to just a single instance.
- B. The session variable is being overwritten in Cloud Datastore.
- C. The URL of the API needs to be modified to prevent caching.
- D. The HTTP Expires header needs to be set to -1 to stop caching.

**Answer:** A

**Explanation:**

<https://stackoverflow.com/questions/3164280/google-app-engine-cache-list-in-session-variable?rq=1>

#### NEW QUESTION 157

- (Topic 5)

You created a pipeline that can deploy your source code changes to your infrastructure in instance groups for self healing.  
 One of the changes negatively affects your key performance indicator. You are not sure how to fix it and investigation could take up to a week. What should you do

- A. Log in to a server, and iterate a fix locally
- B. Change the instance group template to the previous one, and delete all instances.
- C. Revert the source code change and rerun the deployment pipeline
- D. Log into the servers with the bad code change, and swap in the previous code

**Answer:** C

#### NEW QUESTION 158

- (Topic 5)

An application development team believes their current logging tool will not meet their needs for their new cloud-based product. They want a better tool to capture errors and help them analyze their historical log data. You want to help them find a solution that meets their needs, what should you do?

- A. Direct them to download and install the Google StackDriver logging agent.
- B. Send them a list of online resources about logging best practices.
- C. Help them define their requirements and assess viable logging tools.
- D. Help them upgrade their current tool to take advantage of any new features.

**Answer: C**

**Explanation:**

Help them define their requirements and assess viable logging tools. They know the requirements and the existing tools' problems. While it's true StackDriver Logging and Error Reporting possibly meet all their requirements, there might be other tools also meet their need. They need you to provide expertise to make assessment for new tools, specifically, logging tools that can "capture errors and help them analyze their historical log data".

References: <https://cloud.google.com/logging/docs/agent/installation>

**NEW QUESTION 162**

- (Topic 5)

You have an App Engine application that needs to be updated. You want to test the update with production traffic before replacing the current application version. What should you do?

- A. Deploy the update using the Instance Group Updater to create a partial rollout, which allows for canarytesting.
- B. Deploy the update as a new version in the App Engine application, and split traffic between the new and current versions.
- C. Deploy the update in a new VPC, and use Google's global HTTP load balancing to split traffic between the update and current applications.
- D. Deploy the update as a new App Engine application, and use Google's global HTTP load balancing to split traffic between the new and current applications.

**Answer: B**

**Explanation:**

<https://cloud.google.com/appengine/docs/standard/python/splitting-traffic>

**NEW QUESTION 166**

- (Topic 5)

Your company wants to start using Google Cloud resources but wants to retain their on- premises Active Directory domain controller for identity management. What should you do?

- A. Use the Admin Directory API to authenticate against the Active Directory domain controller.
- B. Use Google Cloud Directory Sync to synchronize Active Directory usernames with cloud identities andconfigure SAML SSO.
- C. Use Cloud Identity-Aware Proxy configured to use the on-premises Active Directory domain controller as an identity provider.
- D. Use Compute Engine to create an Active Directory (AD) domain controller that is a replica of the onpremises AD domain controller using Google Cloud Directory Sync.

**Answer: B**

**Explanation:**

[https://cloud.google.com/solutions/federating-gcp-with-active-directory-introduction#implementing\\_federation](https://cloud.google.com/solutions/federating-gcp-with-active-directory-introduction#implementing_federation)

**NEW QUESTION 168**

- (Topic 5)

You need to develop procedures to verify resilience of disaster recovery for remote recovery using GCP. Your production environment is hosted on-premises. You need to establish a secure, redundant connection between your on premises network and the GCP network. What should you do?

- A. Verify that Dedicated Interconnect can replicate files to GC
- B. Verify that direct peering can establish asecure connection between your networks if Dedicated Interconnect fails.
- C. Verify that Dedicated Interconnect can replicate files to GC
- D. Verify that Cloud VPN can establish a secure connection between your networks if Dedicated Interconnect fails.
- E. Verify that the Transfer Appliance can replicate files to GC
- F. Verify that direct peering can establish asecure connection between your networks if the Transfer Appliance fails.
- G. Verify that the Transfer Appliance can replicate files to GC
- H. Verify that Cloud VPN can establish a secure connection between your networks if the Transfer Appliance fails.

**Answer: B**

**Explanation:**

<https://cloud.google.com/interconnect/docs/how-to/direct-peering>

**NEW QUESTION 169**

- (Topic 5)

A recent audit that a new network was created in Your GCP project. In this network, a GCE instance has an SSH port open the world. You want to discover this network's origin. What should you do?

- A. Search for Create VM entry in the Stackdriver alerting console.
- B. Navigate to the Activity page in the Home sectio
- C. Set category to Data Access and search for Create VM entry.
- D. In the logging section of the console, specify GCE Network as the logging sectio
- E. Search for the Create Insert entry.
- F. Connect to the GCE instance using project SSH Key

G. Identify previous logins in system logs, and match these with the project owners list.

**Answer: C**

#### NEW QUESTION 172

- (Topic 5)

You write a Python script to connect to Google BigQuery from a Google Compute Engine virtual machine. The script is printing errors that it cannot connect to BigQuery. What should you do to fix the script?

- A. Install the latest BigQuery API client library for Python
- B. Run your script on a new virtual machine with the BigQuery access scope enabled
- C. Create a new service account with BigQuery access and execute your script with that user
- D. Install the bq component for gcloud with the command `gcloud components install bq`.

**Answer: B**

#### Explanation:

The error is most likely caused by the access scope issue. When you create a new instance, you have the default Compute Engine default service account but most services access including BigQuery is not enabled. Create an instance with BigQuery access scope enabled. Most access is not enabled by default. You have a default service account but don't have the permission (scope) you can stop the instance, edit, change scope and restart it to enable the scope access. Of course, if you run your script on a new virtual machine with the BigQuery access scope enabled, it also works.

<https://cloud.google.com/compute/docs/access/service-accounts>

#### NEW QUESTION 174

- (Topic 5)

Your company has an enterprise application running on Compute Engine that requires high availability and high performance. The application has been deployed on two instances in two zones in the same region in active-passive mode. The application writes data to a persistent disk in the case of a single zone outage that data should be immediately made available to the other instance in the other zone. You want to maximize performance while minimizing downtime and data loss. What should you do?

- A.
  - \* 1. Attach a persistent SSD disk to the first instance
  - \* 2. Create a snapshot every hour
  - \* 3. In case of a zone outage, recreate a persistent SSD disk in the second instance where data is coming from the created snapshot

- B.
  - \* 1. Create a Cloud Storage bucket
  - \* 2. Mount the bucket into the first instance with `gcs-fuse`
  - \* 3. In case of a zone outage, mount the Cloud Storage bucket to the second instance with `gcs-fuse`

- C.
  - \* 1. Attach a local SSD to the first instance disk
  - \* 2. Execute an `rsync` command every hour where the target is a persistent SSD disk attached to the second instance
  - \* 3. In case of a zone outage, use the second instance

- D.
  - \* 1. Attach a regional SSD persistent disk to the first instance
  - \* 2. In case of a zone outage, force-attach the disk to the other instance

A.

**Answer: D**

#### NEW QUESTION 179

- (Topic 5)

Your team needs to create a Google Kubernetes Engine (GKE) cluster to host a newly built application that requires access to third-party services on the internet. Your company does not allow any Compute Engine instance to have a public IP address on Google Cloud. You need to create a deployment strategy that adheres to these guidelines. What should you do?

- A. Create a Compute Engine instance, and install a NAT Proxy on the instance
- B. Configure all workloads on GKE to pass through this proxy to access third-party services on the Internet
- C. Configure the GKE cluster as a private cluster, and configure Cloud NAT Gateway for the cluster subnet
- D. Configure the GKE cluster as a route-based cluster
- E. Configure Private Google Access on the Virtual Private Cloud (VPC)
- F. Configure the GKE cluster as a private cluster
- G. Configure Private Google Access on the Virtual Private Cloud (VPC)

**Answer: B**

#### Explanation:

A Cloud NAT gateway can perform NAT for nodes and Pods in a private cluster, which is a type of VPC-native cluster. The Cloud NAT gateway must be configured to apply to at least the following subnet IP address ranges for the subnet that your cluster uses:

Subnet primary IP address range (used by nodes)

Subnet secondary IP address range used for Pods in the cluster Subnet secondary IP address range used for Services in the cluster

The simplest way to provide NAT for an entire private cluster is to configure a Cloud NAT gateway to apply to all of the cluster's subnet's IP address ranges.

<https://cloud.google.com/nat/docs/overview>

#### NEW QUESTION 183

- (Topic 5)

You are managing several internal applications that are deployed on Compute Engine. Business users inform you that an application has become very slow over the past few days. You want to find the underlying cause in order to solve the problem. What should you do first?

- A. Inspect the logs and metrics from the instances in Cloud Logging and Cloud Monitoring.

- B. Restore a backup of the application database from a time before the application became slow.
- C. Deploy the applications on a managed instance group with autoscaling enable
- D. Add a load balancer in front of the managed instance group, and have the users connect to the IP of the load balancer.
- E. Change the Compute Engine Instances behind the application to a machine type with more CPU and memory.

**Answer:** A

**Explanation:**

When an application becomes slow, the first step you should take is to gather information about the underlying cause of the problem. One way to do this is by inspecting the logs and metrics from the instances where the application is deployed. Google Cloud Platform (GCP) provides tools such as Cloud Logging and Cloud Monitoring that can help you to collect and analyze this information. By reviewing the logs and metrics from the instances, you may be able to identify issues such as resource shortages (e.g. CPU, memory, or disk), network problems, or application errors that are causing the performance issues. Once you have identified the underlying cause of the problem, you can take steps to resolve it.

**NEW QUESTION 184**

- (Topic 5)

You are managing an application deployed on Cloud Run for Anthos, and you need to define a strategy for deploying new versions of the application. You want to evaluate the new code with a subset of production traffic to decide whether to proceed with the rollout. What should you do?

- A. Deploy a new revision to Cloud Run with the new version.
- B. Configure traffic percentage between revisions.
- C. Deploy a new service to Cloud Run with the new version.
- D. Add a Cloud Load Balancing instance in front of both services.
- E. In the Google Cloud Console page for Cloud Run, set up continuous deployment using Cloud Build for the development branch.
- F. As part of the Cloud Build trigger, configure the substitution variable TRAFFIC\_PERCENTAGE with the percentage of traffic you want directed to a new version.
- G. In the Google Cloud Console, configure Traffic Director with a new Service that points to the new version of the application on Cloud Run.
- H. Configure Traffic Director to send a small percentage of traffic to the new version of the application.

**Answer:** A

**Explanation:**

<https://cloud.google.com/run/docs/rollouts-rollbacks-traffic-migration>

**NEW QUESTION 186**

- (Topic 5)

Your company has an application running on Google Cloud that is collecting data from thousands of physical devices that are globally distributed. Data is published to Pub/Sub and streamed in real time into an SSO Cloud Bigtable cluster via a Dataflow pipeline. The operations team informs you that your Cloud Bigtable cluster has a hot-spot and queries are taking longer than expected. You need to resolve the problem and prevent it from happening in the future. What should you do?

- A. Advise your clients to use HBase APIs instead of NodeJS APIs.
- B. Review your RowKey strategy and ensure that keys are evenly spread across the alphabet.
- C. Delete records older than 30 days.
- D. Double the number of nodes you currently have.

**Answer:** B

**NEW QUESTION 191**

- (Topic 5)

Your company has an application running on App Engine that allows users to upload music files and share them with other people. You want to allow users to upload files directly into Cloud Storage from their browser session. The payload should not be passed through the backend. What should you do?

- A.
  - \* 1. Set a CORS configuration in the target Cloud Storage bucket where the base URL of the App Engine application is an allowed origin.
  - \* 2. Use the Cloud Storage Signed URL feature to generate a POST URL.
- B.
  - \* 1. Set a CORS configuration in the target Cloud Storage bucket where the base URL of the App Engine application is an allowed origin.
  - \* 2. Assign the Cloud Storage WRITER role to users who upload files.
- C.
  - \* 1. Use the Cloud Storage Signed URL feature to generate a POST URL.
  - \* 2. Use App Engine default credentials to sign requests against Cloud Storage.
- D.
  - \* 1. Assign the Cloud Storage WRITER role to users who upload files.
  - \* 2. Use App Engine default credentials to sign requests against Cloud Storage.

A.

**Answer:** B

**NEW QUESTION 192**

- (Topic 5)

You have developed a non-critical update to your application that is running in a managed instance group, and have created a new instance template with the update that you want to release. To prevent any possible impact to the application, you don't want to update any running instances. You want any new instances that are created by the managed instance group to contain the new update. What should you do?

- A. Start a new rolling restart operation.
- B. Start a new rolling replace operation.
- C. Start a new rolling update.
- D. Select the Proactive update mode.

- E. Start a new rolling update
- F. Select the Opportunistic update mode.

**Answer:** D

**Explanation:**

In certain scenarios, an opportunistic update is useful because you don't want to cause instability to the system if it can be avoided. For example, if you have a non-critical update that can be applied as necessary without any urgency and you have a MIG that is actively being autoscaled, perform an opportunistic update so that Compute Engine does not actively tear down your existing instances to apply the update. When resizing down, the autoscaler preferentially terminates instances with the old template as well as instances that are not yet in a RUNNING state.

**NEW QUESTION 195**

- (Topic 5)

Your company uses the Firewall Insights feature in the Google Network Intelligence Center. You have several firewall rules applied to Compute Engine instances. You need to evaluate the efficiency of the applied firewall ruleset. When you bring up the Firewall Insights page in the Google Cloud Console, you notice that there are no log rows to display. What should you do to troubleshoot the issue?

- A. Enable Virtual Private Cloud (VPC) flow logging.
- B. Enable Firewall Rules Logging for the firewall rules you want to monitor.
- C. Verify that your user account is assigned the compute.networkAdmin Identity and Access Management (IAM) role.
- D. Install the Google Cloud SDK, and verify that there are no Firewall logs in the command line output.

**Answer:** B

**Explanation:**

Reference: <https://cloud.google.com/network-intelligence-center/docs/firewall-insights/how-to/using-firewall-insights>

**NEW QUESTION 198**

- (Topic 5)

The operations manager asks you for a list of recommended practices that she should consider when migrating a J2EE application to the cloud. Which three practices should you recommend? Choose 3 answers

- A. Port the application code to run on Google App Engine.
- B. Integrate Cloud Dataflow into the application to capture real-time metrics.
- C. Instrument the application with a monitoring tool like Stackdriver Debugger.
- D. Select an automation framework to reliably provision the cloud infrastructure.
- E. Deploy a continuous integration tool with automated testing in a staging environment.
- F. Migrate from MySQL to a managed NoSQL database like Google Cloud Datastore or Bigtable.

**Answer:** AEF

**Explanation:**

References: <https://cloud.google.com/appengine/docs/standard/java/tools/uploadinganapp> <https://cloud.google.com/appengine/docs/standard/java/building-app/cloud-sql>

**NEW QUESTION 201**

- (Topic 5)

You have found an error in your App Engine application caused by missing Cloud Datastore indexes. You have created a YAML file with the required indexes and want to deploy these new indexes to Cloud Datastore. What should you do?

- A. Point gcloud datastore create-indexes to your configuration file
- B. Upload the configuration file to the App Engine's default Cloud Storage bucket, and have App Engine detect the new indexes
- C. In the GCP Console, use Datastore Admin to delete the current indexes and upload the new configuration file
- D. Create an HTTP request to the built-in python module to send the index configuration file to your application

**Answer:** A

**NEW QUESTION 203**

- (Topic 5)

You are migrating third-party applications from optimized on-premises virtual machines to Google Cloud. You are unsure about the optimum CPU and memory options. The application has a consistent usage pattern across multiple weeks. You want to optimize resource usage for the lowest cost. What should you do?

- A. Create a Compute engine instance with CPU and Memory options similar to your application's current on-premises virtual machine
- B. Install the cloud monitoring agent, and deploy the third party application
- C. Run a load with normal traffic levels on third party application and follow the Rightsizing Recommendations in the Cloud Console
- D. Create an App Engine flexible environment, and deploy the third party application using a Docker file and a custom runtime
- E. Set CPU and memory options similar to your application's current on-premises virtual machine in the app.yaml file.
- F. Create an instance template with the smallest available machine type, and use an image of the third party application taken from the current on-premises virtual machine
- G. Create a managed instance group that uses average CPU to autoscale the number of instances in the group
- H. Modify the average CPU utilization threshold to optimize the number of instances running.
- I. Create multiple Compute Engine instances with varying CPU and memory options
- J. Install the cloud monitoring agent and deploy the third-party application on each of the instances
- K. Run a load test with high traffic levels on the application and use the results to determine the optimal settings.

**Answer:** A

**Explanation:**

Create a Compute engine instance with CPU and Memory options similar to your application's current on-premises virtual machine. Install the cloud monitoring agent, and deploy the third party application. Run a load with normal traffic levels on third party application and follow the Rightsizing Recommendations in the Cloud Console <https://cloud.google.com/migrate/compute-engine/docs/4.9/concepts/planning-a-migration/cloud-instance-rightsizing?hl=en>

**NEW QUESTION 208**

- (Topic 5)

You are working at a sports association whose members range in age from 8 to 30. The association collects a large amount of health data, such as sustained injuries. You are storing this data in BigQuery. Current legislation requires you to delete such information upon request of the subject. You want to design a solution that can accommodate such a request. What should you do?

- A. Use a unique identifier for each individual
- B. Upon a deletion request, delete all rows from BigQuery with this identifier.
- C. When ingesting new data in BigQuery, run the data through the Data Loss Prevention (DLP) API to identify any personal information
- D. As part of the DLP scan, save the result to Data Catalog
- E. Upon a deletion request, query Data Catalog to find the column with personal information.
- F. Create a BigQuery view over the table that contains all data
- G. Upon a deletion request, exclude the rows that affect the subject's data from this view
- H. Use this view instead of the source table for all analysis tasks.
- I. Use a unique identifier for each individual
- J. Upon a deletion request, overwrite the column with the unique identifier with a salted SHA256 of its value.

**Answer: B**

**Explanation:**

Current legislation requires you to delete "SUCH" information upon request of the subject. " So from that point of view the question is not to delete the entire user records but specific data related to personal health data. With DLP you can use InfoTypes and InfoType detectors to specifically scan for those entries and how to act upon them (link <https://cloud.google.com/dlp/docs/concepts-infotypes>)  
<https://cloud.google.com/dlp#section-6>

**NEW QUESTION 211**

- (Topic 5)

Your customer is moving an existing corporate application to Google Cloud Platform from an on-premises data center. The business owners require minimal user disruption. There are strict security team requirements for storing passwords. What authentication strategy should they use?

- A. Use G Suite Password Sync to replicate passwords into Google.
- B. Federate authentication via SAML 2.0 to the existing Identity Provider.
- C. Provision users in Google using the Google Cloud Directory Sync tool.
- D. Ask users to set their Google password to match their corporate password.

**Answer: B**

**Explanation:**

<https://cloud.google.com/solutions/authenticating-corporate-users-in-a-hybrid-environment>

**NEW QUESTION 213**

- (Topic 5)

Your customer wants to capture multiple GBs of aggregate real-time key performance indicators (KPIs) from their game servers running on Google Cloud Platform and monitor the KPIs with low latency. How should they capture the KPIs?

- A. Store time-series data from the game servers in Google Bigtable, and view it using Google Data Studio.
- B. Output custom metrics to Stackdriver from the game servers, and create a Dashboard in StackdriverMonitoring Console to view them.
- C. Schedule BigQuery load jobs to ingest analytics files uploaded to Cloud Storage every ten minutes, and visualize the results in Google Data Studio.
- D. Insert the KPIs into Cloud Datastore entities, and run ad hoc analysis and visualizations of them in Cloud Datalab.

**Answer: A**

**Explanation:**

<https://cloud.google.com/monitoring/api/v3/metrics-details#metric-kinds>

**NEW QUESTION 215**

- (Topic 5)

Your architecture calls for the centralized collection of all admin activity and VM system logs within your project.

How should you collect these logs from both VMs and services?

- A. All admin and VM system logs are automatically collected by Stackdriver.
- B. Stackdriver automatically collects admin activity logs for most services
- C. The Stackdriver Logging agent must be installed on each instance to collect system logs.
- D. Launch a custom syslogd compute instance and configure your GCP project and VMs to forward all logs to it.
- E. Install the Stackdriver Logging agent on a single compute instance and let it collect all audit and access logs for your environment.

**Answer: B**

**Explanation:**

<https://cloud.google.com/logging/docs/agent/default-logs>

**NEW QUESTION 218**

- (Topic 5)

Your company wants to migrate their 10-TB on-premises database export into Cloud Storage. You want to minimize the time it takes to complete this activity, the overall cost and database load. The bandwidth between the on-premises environment and Google Cloud is 1 Gbps. You want to follow Google-recommended practices. What should you do?

- A. Use the Data Transfer appliance to perform an offline migration.
- B. Use a commercial partner ETL solution to extract the data from the on-premises database and upload it into Cloud Storage.
- C. Develop a Dataflow job to read data directly from the database and write it into Cloud Storage.
- D. Compress the data and upload it with `gsutil -m` to enable multi-threaded copy.

**Answer: A**

**Explanation:**

The Data Transfer appliance is a Google-provided hardware device that can be used to transfer large amounts of data from on-premises environments to Cloud Storage. It is suitable for scenarios where the bandwidth between the on-premises environment and Google Cloud is low or insufficient, and the data size is large. The Data Transfer appliance can minimize the time it takes to complete the migration, the overall cost and database load, by avoiding network bottlenecks and reducing bandwidth consumption. The Data Transfer appliance also encrypts the data at rest and in transit, ensuring data security and privacy. The other options are not optimal for this scenario, because they either require a high-bandwidth network connection (B, C, D), or incur additional costs and complexity (B, C). References:

? <https://cloud.google.com/data-transfer-appliance/docs/overview>

? <https://cloud.google.com/blog/products/storage-data-transfer/introducing-storage-transfer-service-for-on-premises-data>

**NEW QUESTION 222**

- (Topic 5)

You want your Google Kubernetes Engine cluster to automatically add or remove nodes based on CPU load. What should you do?

- A. Configure a HorizontalPodAutoscaler with a target CPU usage.
- B. Enable the Cluster Autoscaler from the GCP Console.
- C. Configure a HorizontalPodAutoscaler with a target CPU usage.
- D. Enable autoscaling on the managed instance group for the cluster using the `gcloud` command.
- E. Create a deployment and set the `maxUnavailable` and `maxSurge` properties.
- F. Enable the Cluster Autoscaler using the `gcloud` command.
- G. Create a deployment and set the `maxUnavailable` and `maxSurge` properties.
- H. Enable autoscaling on the cluster managed instance group from the GCP Console.

**Answer: B**

**NEW QUESTION 227**

- (Topic 5)

Your company is moving 75 TB of data into Google Cloud. You want to use Cloud Storage and follow Google-recommended practices. What should you do?

- A. Move your data onto a Transfer Appliance.
- B. Use a Transfer Appliance Rehydrator to decrypt the data into Cloud Storage.
- C. Move your data onto a Transfer Appliance.
- D. Use Cloud Dataprep to decrypt the data into Cloud Storage.
- E. Install `gsutil` on each server that contains data.
- F. Use resumable transfers to upload the data into Cloud Storage.
- G. Install `gsutil` on each server containing data.
- H. Use streaming transfers to upload the data into Cloud Storage.

**Answer: A**

**Explanation:**

<https://cloud.google.com/transfer-appliance/docs/2.0/faq>

**NEW QUESTION 232**

- (Topic 5)

You have an application that makes HTTP requests to Cloud Storage. Occasionally the requests fail with HTTP status codes of 5xx and 429.

How should you handle these types of errors?

- A. Use gRPC instead of HTTP for better performance.
- B. Implement retry logic using a truncated exponential backoff strategy.
- C. Make sure the Cloud Storage bucket is multi-regional for geo-redundancy.
- D. Monitor <https://status.cloud.google.com/feed.atom> and only make requests if Cloud Storage is not reporting an incident.

**Answer: A**

**Explanation:**

Reference [https://cloud.google.com/storage/docs/json\\_api/v1/status-codes](https://cloud.google.com/storage/docs/json_api/v1/status-codes)

**NEW QUESTION 233**

- (Topic 5)

A development team at your company has created a Dockerized HTTPS web application. You need to deploy the application on Google Kubernetes Engine (GKE) and make sure that the application scales automatically.

How should you deploy to GKE?

- A. Use the Horizontal Pod Autoscaler and enable cluster autoscaling.
- B. Use an Ingress resource to load balance the HTTPS traffic.

- C. Use the Horizontal Pod Autoscaler and enable cluster autoscaling on the Kubernetes cluster
- D. Use a Service resource of type LoadBalancer to load-balance the HTTPS traffic.
- E. Enable autoscaling on the Compute Engine instance group
- F. Use an Ingress resource to load balance the HTTPS traffic.
- G. Enable autoscaling on the Compute Engine instance group
- H. Use a Service resource of type LoadBalancer to load-balance the HTTPS traffic.

**Answer:** B

**Explanation:**

<https://cloud.google.com/kubernetes-engine/docs/tutorials/http-balancer> <https://cloud.google.com/kubernetes-engine/docs/concepts/network-overview#ext-lb>

**NEW QUESTION 234**

- (Topic 5)

Your company has just recently activated Cloud Identity to manage users. The Google Cloud Organization has been configured as web. The security team needs to secure protects that will be part of the Organization. They want to prohibit IAM users outside the domain from gaining permissions from now on. What should they do?

- A. Configure an organization policy to restrict identities by domain
- B. Configure an organization policy to block creation of service accounts
- C. Configure Cloud Scheduler to trigger a Cloud Function every hour that removes all users that don't belong to the Cloud identity domain from all projects.

**Answer:** A

**Explanation:**

? An organization policy is a mechanism to configure constraints across your entire resource hierarchy<sup>1</sup>. By configuring an organization policy to restrict identities by domain, you can specify which domains are allowed or denied when granting IAM roles to users, groups, or service accounts<sup>2</sup>. This way, you can prohibit IAM users outside the domain from gaining permissions from now on<sup>2</sup>.

**NEW QUESTION 239**

- (Topic 5)

The database administration team has asked you to help them improve the performance of their new database server running on Google Compute Engine. The database is for importing and normalizing their performance statistics and is built with MySQL running on Debian Linux. They have an n1-standard-8 virtual machine with 80 GB of SSD persistent disk. What should they change to get better performance from this system?

- A. Increase the virtual machine's memory to 64 GB.
- B. Create a new virtual machine running PostgreSQL.
- C. Dynamically resize the SSD persistent disk to 500 GB.
- D. Migrate their performance metrics warehouse to BigQuery.
- E. Modify all of their batch jobs to use bulk inserts into the database.

**Answer:** C

**NEW QUESTION 244**

- (Topic 5)

During a high traffic portion of the day, one of your relational databases crashes, but the replica is never promoted to a master. You want to avoid this in the future. What should you do?

- A. Use a different database.
- B. Choose larger instances for your database.
- C. Create snapshots of your database more regularly.
- D. Implement routinely scheduled failovers of your databases.

**Answer:** D

**Explanation:**

<https://cloud.google.com/solutions/dr-scenarios-planning-guide>

**NEW QUESTION 247**

- (Topic 5)

Your customer is receiving reports that their recently updated Google App Engine application is taking approximately 30 seconds to load for some of their users. This behavior was not reported before the update. What strategy should you take?

- A. Work with your ISP to diagnose the problem.
- B. Open a support ticket to ask for network capture and flow data to diagnose the problem, then roll back your application.
- C. Roll back to an earlier known good release initially, then use Stackdriver Trace and logging to diagnose the problem in a development/test/staging environment.
- D. Roll back to an earlier known good release, then push the release again at a quieter period to investigate
- E. Then use Stackdriver Trace and logging to diagnose the problem.

**Answer:** C

**Explanation:**

Stackdriver Logging allows you to store, search, analyze, monitor, and alert on log data and events from Google Cloud Platform and Amazon Web Services (AWS). Our API also allows ingestion of any custom log data from any source. Stackdriver Logging is a fully managed service that performs at scale and can ingest application and system log data from thousands of VMs. Even better, you can analyze all that log data in real time.

References: <https://cloud.google.com/logging/>

**NEW QUESTION 252**

- (Topic 5)

You have an application deployed on Kubernetes Engine using a Deployment named echo- deployment. The deployment is exposed using a Service called echo-service. You need to perform an update to the application with minimal downtime to the application. What should you do?

- A. Use kubectl set image deployment/echo-deployment <new-image>
- B. Use the rolling update functionality of the Instance Group behind the Kubernetes cluster
- C. Update the deployment yaml file with the new container image
- D. Use kubectl delete deployment/echo-deployment and kubectl create -f <yaml-file>
- E. Update the service yaml file with the new container image
- F. Use kubectl delete service/echoservice and kubectl create -f <yaml-file>

**Answer: A**

**Explanation:**

[https://cloud.google.com/kubernetes-engine/docs/how-to/updating-apps#updating\\_an\\_application](https://cloud.google.com/kubernetes-engine/docs/how-to/updating-apps#updating_an_application)

#### NEW QUESTION 254

- (Topic 5)

Your company has sensitive data in Cloud Storage buckets. Data analysts have Identity Access Management (IAM) permissions to read the buckets. You want to prevent data analysts from retrieving the data in the buckets from outside the office network. What should you do?

- A. \* 1. Create a VPC Service Controls perimeter that includes the projects with the buckets.\* 2. Create an access level with the CIDR of the office network.
- B. \* 1. Create a firewall rule for all instances in the Virtual Private Cloud (VPC) network for source range.\* 2. Use the Classless Inter-domain Routing (CIDR) of the office network.
- C. \* 1. Create a Cloud Function to remove IAM permissions from the buckets, and another Cloud Function to add IAM permissions to the buckets.\* 2. Schedule the Cloud Functions with Cloud Scheduler to add permissions at the start of business and remove permissions at the end of business.
- D. \* 1. Create a Cloud VPN to the office network.\* 2. Configure Private Google Access for on-premises hosts.

**Answer: A**

**Explanation:**

For all Google Cloud services secured with VPC Service Controls, you can ensure that: Resources within a perimeter are accessed only from clients within authorized VPC networks using Private Google Access with either Google Cloud or on-premises. <https://cloud.google.com/vpc-service-controls/docs/overview> <https://cloud.google.com/vpc-service-controls/docs/overview>. You create a service control across your VPC and any cloud bucket or any project resource to restrict access. Anything outside of it can't access the resources within service control perimeter

#### NEW QUESTION 258

- (Topic 5)

Your company has a support ticketing solution that uses App Engine Standard. The project that contains the App Engine application already has a Virtual Private Cloud(VPC) network fully connected to the company's on-premises environment through a Cloud VPN tunnel. You want to enable App Engine application to communicate with a database that is running in the company's on-premises environment. What should you do?

- A. Configure private services access
- B. Configure private Google access for on-premises hosts only
- C. Configure serverless VPC access
- D. Configure private Google access

**Answer: A**

**Explanation:**

<https://cloud.google.com/appengine/docs/standard/python3/connecting-vpc> [https://cloud.google.com/appengine/docs/flexible/python/using-third-party-databases#on\\_premises](https://cloud.google.com/appengine/docs/flexible/python/using-third-party-databases#on_premises)

#### NEW QUESTION 262

- (Topic 5)

Your organization has a 3-tier web application deployed in the same network on Google Cloud Platform. Each tier (web, API, and database) scales independently of the others Network traffic should flow through the web to the API tier and then on to the database tier. Traffic should not flow between the web and the database tier. How should you configure the network?

- A. Add each tier to a different subnetwork.
- B. Set up software based firewalls on individual VMs.
- C. Add tags to each tier and set up routes to allow the desired traffic flow.
- D. Add tags to each tier and set up firewall rules to allow the desired traffic flow.

**Answer: D**

**Explanation:**

<https://aws.amazon.com/blogs/aws/building-three-tier-architectures-with-security-groups/>  
 Google Cloud Platform(GCP) enforces firewall rules through rules and tags. GCP rules and tags can be defined once and used across all regions.  
 References: <https://cloud.google.com/docs/compare/openstack/> <https://aws.amazon.com/it/blogs/aws/building-three-tier-architectures-with-security-groups/>

#### NEW QUESTION 263

- (Topic 5)

You want to make a copy of a production Linux virtual machine in the US-Central region. You want to manage and replace the copy easily if there are changes on the production virtual machine. You will deploy the copy as a new instances in a different project in the US-East region. What steps must you take?

- A. Use the Linux dd and netcat command to copy and stream the root disk contents to a new virtual machine instance in the US-East region.
- B. Create a snapshot of the root disk and select the snapshot as the root disk when you create a new virtual machine instance in the US-East region.
- C. Create an image file from the root disk with Linux dd command, create a new disk from the image file, and use it to create a new virtual machine instance in the US-East region
- D. Create a snapshot of the root disk, create an image file in Google Cloud Storage from the snapshot, and create a new virtual machine instance in the US-East region using the image file for the root disk.

**Answer:** D

**Explanation:**

<https://stackoverflow.com/questions/36441423/migrate-google-compute-engine-instance-to-a-different-region>

**NEW QUESTION 266**

- (Topic 6)

For this question, refer to the Dress4Win case study. Considering the given business requirements, how would you automate the deployment of web and transactional data layers?

- A. Deploy Nginx and Tomcat using Cloud Deployment Manager to Compute Engine
- B. Deploy a Cloud SQL server to replace MySQL
- C. Deploy Jenkins using Cloud Deployment Manager.
- D. Deploy Nginx and Tomcat using Cloud Launcher
- E. Deploy a MySQL server using Cloud Launcher
- F. Deploy Jenkins to Compute Engine using Cloud Deployment Manager scripts.
- G. Migrate Nginx and Tomcat to App Engine
- H. Deploy a Cloud Datastore server to replace the MySQL server in a high-availability configuration
- I. Deploy Jenkins to Compute Engine using Cloud Launcher.
- J. Migrate Nginx and Tomcat to App Engine
- K. Deploy a MySQL server using Cloud Launcher
- L. Deploy Jenkins to Compute Engine using Cloud Launcher.

**Answer:** A

**NEW QUESTION 267**

- (Topic 6)

For this question, refer to the Dress4Win case study. You want to ensure that your on-premises architecture meets business requirements before you migrate your solution.

What change in the on-premises architecture should you make?

- A. Replace RabbitMQ with Google Pub/Sub.
- B. Downgrade MySQL to v5.7, which is supported by Cloud SQL for MySQL.
- C. Resize compute resources to match predefined Compute Engine machine types.
- D. Containerize the micro services and host them in Google Kubernetes Engine.

**Answer:** C

**NEW QUESTION 272**

- (Topic 7)

TerraEarth has a legacy web application that you cannot migrate to cloud. However, you still want to build a cloud-native way to monitor the application. If the application goes down, you want the URL to point to a "Site is unavailable" page as soon as possible. You also want your Ops team to receive a notification for the issue. You need to build a reliable solution for minimum cost

What should you do?

- A. Create a scheduled job in Cloud Run to invoke a container every minute
- B. The container will check the application URL. If the application is down, switch the URL to the "Site is unavailable" page, and notify the Ops team.
- C. Create a cron job on a Compute Engine VM that runs every minute
- D. The cron job invokes a Python program to check the application URL. If the application is down, switch the URL to the "Site is unavailable" page, and notify the Ops team.
- E. Create a Cloud Monitoring uptime check to validate the application URL. If it fails, put a message in a Pub/Sub queue that triggers a Cloud Function to switch the URL to the "Site is unavailable" page, and notify the Ops team.
- F. Use Cloud Error Reporting to check the application URL. If the application is down, switch the URL to the "Site is unavailable" page, and notify the Ops team.

**Answer:** C

**Explanation:**

<https://cloud.google.com/blog/products/management-tools/how-to-use-pubsub-as-a-cloud-monitoring-notification-channel>

**NEW QUESTION 275**

- (Topic 7)

You have broken down a legacy monolithic application into a few containerized RESTful microservices. You want to run those microservices on Cloud Run. You also want to make sure the services are highly available with low latency to your customers. What should you do?

- A. Deploy Cloud Run services to multiple availability zones
- B. Create Cloud Endpoints that point to the service
- C. Create a global HTTP(S) Load Balancing instance and attach the Cloud Endpoints to its backend.
- D. Deploy Cloud Run services to multiple regions. Create serverless network endpoint groups pointing to the service
- E. Add the serverless NEGs to a backend service that is used by a global HTTP(S) Load Balancing instance.
- F. Deploy Cloud Run services to multiple regions
- G. In Cloud DNS, create a latency-based DNS name that points to the services.
- H. Deploy Cloud Run services to multiple availability zones

- I. Create a TCP/IP global load balance
- J. Add the Cloud Run Endpoints to its backend service.

**Answer:** B

**Explanation:**

<https://cloud.google.com/run/docs/multiple-regions>

**NEW QUESTION 278**

- (Topic 7)

For this question, refer to the TerramEarth case study.

You start to build a new application that uses a few Cloud Functions for the backend. One use case requires a Cloud Function `func_display` to invoke another Cloud Function `func_query`. You want `func_query` only to accept invocations from `func_display`. You also want to follow Google's recommended best practices. What should you do?

- A. Create a token and pass it in as an environment variable to `func_display`
- B. When invoking `func_query`, include the token in the request. Pass the same token to `func_query` and reject the invocation if the tokens are different.
- C. Make `func_query` 'Require authentication.' Create a unique service account and associate it to `func_display`
- D. Grant the service account invoker role for `func_query`
- E. Create an ID token in `func_display` and include the token to the request when invoking `func_query`.
- F. Make `func_query` 'Require authentication' and only accept internal traffic
- G. Create those two functions in the same VPC
- H. Create an ingress firewall rule for `func_query` to only allow traffic from `func_display`.
- I. Create those two functions in the same project and VPC
- J. Make `func_query` only accept internal traffic
- K. Create an ingress firewall for `func_query` to only allow traffic from `func_display`
- L. Also, make sure both functions use the same service account.

**Answer:** B

**Explanation:**

[https://cloud.google.com/functions/docs/securing/authenticating#authenticating\\_function\\_to\\_function\\_calls](https://cloud.google.com/functions/docs/securing/authenticating#authenticating_function_to_function_calls)

**NEW QUESTION 281**

- (Topic 7)

For this question, refer to the TerramEarth case study. Considering the technical requirements, how should you reduce the unplanned vehicle downtime in GCP?

- A. Use BigQuery as the data warehouse
- B. Connect all vehicles to the network and stream data into BigQuery using Cloud Pub/Sub and Cloud Dataflow
- C. Use Google Data Studio for analysis and reporting.
- D. Use BigQuery as the data warehouse
- E. Connect all vehicles to the network and upload gzip files to a Multi-Regional Cloud Storage bucket using `gcloud`
- F. Use Google Data Studio for analysis and reporting.
- G. Use Cloud Dataproc Hive as the data warehouse
- H. Upload gzip files to a Multi-Regional Cloud Storage bucket
- I. Upload this data into BigQuery using `gcloud`
- J. Use Google Data Studio for analysis and reporting.
- K. Use Cloud Dataproc Hive as the data warehouse
- L. Directly stream data into a partitioned Hive table
- M. Use Pig scripts to analyze data.

**Answer:** A

**NEW QUESTION 285**

- (Topic 7)

You are migrating a Linux-based application from your private data center to Google Cloud. The TerramEarth security team sent you several recent Linux vulnerabilities published by Common Vulnerabilities and Exposures (CVE). You need assistance in understanding how these vulnerabilities could impact your migration. What should you do?

- A. Open a support case regarding the CVE and chat with the support engineer.
- B. Read the CVEs from the Google Cloud Status Dashboard to understand the impact.
- C. Read the CVEs from the Google Cloud Platform Security Bulletins to understand the impact
- D. Post a question regarding the CVE in Stack Overflow to get an explanation
- E. Post a question regarding the CVE in a Google Cloud discussion group to get an explanation

**Answer:** AC

**Explanation:**

<https://cloud.google.com/support/bulletins>

**NEW QUESTION 287**

- (Topic 7)

TerramEarth has about 1 petabyte (PB) of vehicle testing data in a private data center. You want to move the data to Cloud Storage for your machine learning team. Currently, a 1-Gbps interconnect link is available for you. The machine learning team wants to start using the data in a month. What should you do?

- A. Request Transfer Appliances from Google Cloud, export the data to appliances, and return the appliances to Google Cloud.
- B. Configure the Storage Transfer service from Google Cloud to send the data from your data center to Cloud Storage
- C. Make sure there are no other users consuming the 1 Gbps link, and use multi-thread transfer to upload the data to Cloud Storage.

D. Export files to an encrypted USB device, send the device to Google Cloud, and request an import of the data to Cloud Storage

**Answer:** A

#### NEW QUESTION 290

- (Topic 7)

For this question, refer to the TerramEarth case study. You are asked to design a new architecture for the ingestion of the data of the 200,000 vehicles that are connected to a cellular network. You want to follow Google-recommended practices.

Considering the technical requirements, which components should you use for the ingestion of the data?

- A. Google Kubernetes Engine with an SSL Ingress
- B. Cloud IoT Core with public/private key pairs
- C. Compute Engine with project-wide SSH keys
- D. Compute Engine with specific SSH keys

**Answer:** A

#### Explanation:

<https://cloud.google.com/solutions/iot-overview> <https://cloud.google.com/iot/quotas>

#### NEW QUESTION 292

- (Topic 8)

For this question, refer to the Mountkirk Games case study. Mountkirk Games wants to design their solution for the future in order to take advantage of cloud and technology improvements as they become available. Which two steps should they take? (Choose two.)

- A. Store as much analytics and game activity data as financially feasible today so it can be used to train machine learning models to predict user behavior in the future.
- B. Begin packaging their game backend artifacts in container images and running them on Kubernetes Engine to improve the availability to scale up or down based on game activity.
- C. Set up a CI/CD pipeline using Jenkins and Spinnaker to automate canary deployments and improve development velocity.
- D. Adopt a schema versioning tool to reduce downtime when adding new game features that require storing additional player data in the database.
- E. Implement a weekly rolling maintenance process for the Linux virtual machines so they can apply critical kernel patches and package updates and reduce the risk of 0-day vulnerabilities.

**Answer:** BC

#### NEW QUESTION 293

- (Topic 8)

For this question, refer to the Mountkirk Games case study. Mountkirk Games wants to migrate from their current analytics and statistics reporting model to one that meets their technical requirements on Google Cloud Platform.

Which two steps should be part of their migration plan? (Choose two.)

- A. Evaluate the impact of migrating their current batch ETL code to Cloud Dataflow.
- B. Write a schema migration plan to denormalize data for better performance in BigQuery.
- C. Draw an architecture diagram that shows how to move from a single MySQL database to a MySQL cluster.
- D. Load 10 TB of analytics data from a previous game into a Cloud SQL instance, and run test queries against the full dataset to confirm that they complete successfully.
- E. Integrate Cloud Armor to defend against possible SQL injection attacks in analytics files uploaded to Cloud Storage.

**Answer:** AB

#### Explanation:

[https://cloud.google.com/bigquery/docs/loading-data#loading\\_denormalized\\_nested\\_and\\_repeated\\_data](https://cloud.google.com/bigquery/docs/loading-data#loading_denormalized_nested_and_repeated_data)

#### NEW QUESTION 295

- (Topic 8)

For this question, refer to the Mountkirk Games case study. Mountkirk Games wants you to design a way to test the analytics platform's resilience to changes in mobile network latency. What should you do?

- A. Deploy failure injection software to the game analytics platform that can inject additional latency to mobile client analytics traffic.
- B. Build a test client that can be run from a mobile phone emulator on a Compute Engine virtual machine, and run multiple copies in Google Cloud Platform regions all over the world to generate realistic traffic.
- C. Add the ability to introduce a random amount of delay before beginning to process analytics files uploaded from mobile devices.
- D. Create an opt-in beta of the game that runs on players' mobile devices and collects response times from analytics endpoints running in Google Cloud Platform regions all over the world.

**Answer:** D

#### NEW QUESTION 297

- (Topic 8)

For this question, refer to the Mountkirk Games case study. You are in charge of the new Game Backend Platform architecture. The game communicates with the backend over a REST API.

You want to follow Google-recommended practices. How should you design the backend?

- A. Create an instance template for the backend
- B. For every region, deploy it on a multi-zone managed instance group
- C. Use an L4 load balancer.

- D. Create an instance template for the backen
- E. For every region, deploy it on a single- zone managed instance grou
- F. Use an L4 load balancer.
- G. Create an instance template for the backen
- H. For every region, deploy it on a multi-zone managed instance grou
- I. Use an L7 load balancer.
- J. Create an instance template for the backen
- K. For every region, deploy it on a single- zone managed instance grou
- L. Use an L7 load balancer.

**Answer: C**

**Explanation:**

[https://cloud.google.com/solutions/gaming/cloud-game-infrastructure#dedicated\\_game\\_server](https://cloud.google.com/solutions/gaming/cloud-game-infrastructure#dedicated_game_server)

**NEW QUESTION 301**

- (Topic 8)

You need to optimize batch file transfers into Cloud Storage for Mountkirk Games' new Google Cloud solution. The batch files contain game statistics that need to be staged in Cloud Storage and be processed by an extract transform load (ETL) tool. What should you do?

- A. Use gsutil to batch move files in sequence.
- B. Use gsutil to batch copy the files in parallel.
- C. Use gsutil to extract the files as the first part of ETL.
- D. Use gsutil to load the files as the last part of ETL.

**Answer: B**

**Explanation:**

Reference: <https://cloud.google.com/storage/docs/gsutil/commands/cp>

**NEW QUESTION 303**

- (Topic 8)

Your development team has created a mobile game app. You want to test the new mobile app on Android and iOS devices with a variety of configurations. You need to ensure that testing is efficient and cost-effective. What should you do?

- A. Upload your mobile app to the Firebase Test Lab, and test the mobile app on Android and iOS devices.
- B. Create Android and iOS VMs on Google Cloud, install the mobile app on the VMs, and test the mobile app.
- C. Create Android and iOS containers on Google Kubernetes Engine (GKE), install the mobile app on the containers, and test the mobile app.
- D. Upload your mobile app with different configurations to Firebase Hosting and test each configuration.

**Answer: C**

**NEW QUESTION 307**

- (Topic 8)

You are implementing Firestore for Mountkirk Games. Mountkirk Games wants to give a new game programmatic access to a legacy game's Firestore database. Access should be as restricted as possible. What should you do?

- A. Create a service account (SA) in the legacy game's Google Cloud project, add this SA in the new game's IAM page, and then give it the Firebase Admin role in both projects
- B. Create a service account (SA) in the legacy game's Google Cloud project, add a second SA in the new game's IAM page, and then give the Organization Admin role to both SAs
- C. Create a service account (SA) in the legacy game's Google Cloud project, give it the Firebase Admin role, and then migrate the new game to the legacy game's project.
- D. Create a service account (SA) in the legacy game's Google Cloud project, give the SA the Organization Admin rule and then give it the Firebase Admin role in both projects

**Answer: A**

**NEW QUESTION 312**

- (Topic 9)

For this question, refer to the Helicopter Racing League (HRL) case study. The HRL development team releases a new version of their predictive capability application every Tuesday evening at 3

- A. a.
- B. UTC to a repositior
- C. The security team at HRL has developed an in-house penetration test Cloud Function called Airwolf. The security team wants to run Airwolf against the predictive capability application as soon as it is released every Tuesda
- D. You need to set up Airwolf to run at the recurring weekly cadenc
- E. What should you do?
- F. Set up Cloud Tasks and a Cloud Storage bucket that triggers a Cloud Function.
- G. Set up a Cloud Logging sink and a Cloud Storage bucket that triggers a Cloud Function.
- H. Configure the deployment job to notify a Pub/Sub queue that triggers a Cloud Function.
- I. Set up Identity and Access Management (IAM) and Confidential Computing to trigger a Cloud Function.

**Answer: A**

**NEW QUESTION 315**

- (Topic 9)

For this question, refer to the Helicopter Racing League (HRL) case study. HRL wants better prediction accuracy from their ML prediction models. They want you to use Google's AI Platform so HRL can understand and interpret the predictions. What should you do?

- A. Use Explainable AI.
- B. Use Vision AI.
- C. Use Google Cloud's operations suite.
- D. Use Jupyter Notebooks.

**Answer:** A

**Explanation:**

Reference: <https://cloud.google.com/ai-platform/prediction/docs/ai-explanations/preparing-metadata>

#### NEW QUESTION 316

- (Topic 9)

For this question, refer to the Helicopter Racing League (HRL) case study. Your team is in charge of creating a payment card data vault for card numbers used to bill tens of thousands of viewers, merchandise consumers, and season ticket holders. You need to implement a custom card tokenization service that meets the following requirements:

- It must provide low latency at minimal cost.
- It must be able to identify duplicate credit cards and must not store plaintext card numbers.
- It should support annual key rotation.

Which storage approach should you adopt for your tokenization service?

- A. Store the card data in Secret Manager after running a query to identify duplicates.
- B. Encrypt the card data with a deterministic algorithm stored in Firestore using Datastore mode.
- C. Encrypt the card data with a deterministic algorithm and shard it across multiple Memorystore instances.
- D. Use column-level encryption to store the data in Cloud SQL.

**Answer:** B

#### NEW QUESTION 320

- (Topic 9)

For this question, refer to the Helicopter Racing League (HRL) case study. A recent finance audit of cloud infrastructure noted an exceptionally high number of Compute Engine instances are allocated to do video encoding and transcoding. You suspect that these Virtual Machines are zombie machines that were not deleted after their workloads completed. You need to quickly get a list of which VM instances are idle. What should you do?

- A. Log into each Compute Engine instance and collect disk, CPU, memory, and network usage statistics for analysis.
- B. Use the `gcloud compute instances list` to list the virtual machine instances that have the `idle: true` label set.
- C. Use the `gcloud recommender` command to list the idle virtual machine instances.
- D. From the Google Console, identify which Compute Engine instances in the managed instance groups are no longer responding to health check probes.

**Answer:** C

**Explanation:**

Reference: <https://cloud.google.com/compute/docs/instances/viewing-and-applying-idle-vm-recommendations>

#### NEW QUESTION 322

- (Topic 10)

For this question, refer to the EHR Healthcare case study. In the past, configuration errors put public IP addresses on backend servers that should not have been accessible from the Internet. You need to ensure that no one can put external IP addresses on backend Compute Engine instances and that external IP addresses can only be configured on frontend Compute Engine instances. What should you do?

- A. Create an Organizational Policy with a constraint to allow external IP addresses only on the frontend Compute Engine instances.
- B. Revoke the `compute.networkAdmin` role from all users in the project with front end instances.
- C. Create an Identity and Access Management (IAM) policy that maps the IT staff to the `compute.networkAdmin` role for the organization.
- D. Create a custom Identity and Access Management (IAM) role named `GCE_FRONTEND` with the `compute.addresses.create` permission.

**Answer:** A

**Explanation:**

<https://cloud.google.com/compute/docs/ip-addresses/reserve-static-external-ip-address#disableexternalip>

#### NEW QUESTION 326

- (Topic 10)

For this question, refer to the EHR Healthcare case study. You are responsible for ensuring that EHR's use of Google Cloud will pass an upcoming privacy compliance audit. What should you do? (Choose two.)

- A. Verify EHR's product usage against the list of compliant products on the Google Cloud compliance page.
- B. Advise EHR to execute a Business Associate Agreement (BAA) with Google Cloud.
- C. Use Firebase Authentication for EHR's user facing applications.
- D. Implement Prometheus to detect and prevent security breaches on EHR's web-based applications.
- E. Use GKE private clusters for all Kubernetes workloads.

**Answer:** AB

**Explanation:**

<https://cloud.google.com/security/compliance/hipaa>

**NEW QUESTION 327**

- (Topic 10)

For this question, refer to the EHR Healthcare case study. You are responsible for designing the Google Cloud network architecture for Google Kubernetes Engine. You want to follow Google best practices. Considering the EHR Healthcare business and technical requirements, what should you do to reduce the attack surface?

- A. Use a private cluster with a private endpoint with master authorized networks configured.
- B. Use a public cluster with firewall rules and Virtual Private Cloud (VPC) routes.
- C. Use a private cluster with a public endpoint with master authorized networks configured.
- D. Use a public cluster with master authorized networks enabled and firewall rules.

**Answer:** A

**Explanation:**

<https://cloud.google.com/kubernetes-engine/docs/concepts/private-cluster-concept#overview>

**NEW QUESTION 328**

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