



**Google**

## **Exam Questions Professional-Cloud-Architect**

Google Certified Professional - Cloud Architect (GCP)

### NEW QUESTION 1

- (Topic 1)

For this question, refer to the Mountkirk Games case study.

Mountkirk Games wants to set up a continuous delivery pipeline. Their architecture includes many small services that they want to be able to update and roll back quickly. Mountkirk Games has the following requirements:

- Services are deployed redundantly across multiple regions in the US and Europe.
- Only frontend services are exposed on the public internet.
- They can provide a single frontend IP for their fleet of services.
- Deployment artifacts are immutable. Which set of products should they use?

- A. Google Cloud Storage, Google Cloud Dataflow, Google Compute Engine
- B. Google Cloud Storage, Google App Engine, Google Network Load Balancer
- C. Google Kubernetes Registry, Google Container Engine, Google HTTP(S) Load Balancer
- D. Google Cloud Functions, Google Cloud Pub/Sub, Google Cloud Deployment Manager

**Answer:** C

### NEW QUESTION 2

- (Topic 1)

For this question, refer to the Mountkirk Games case study

Mountkirk Games needs to create a repeatable and configurable mechanism for deploying isolated application environments. Developers and testers can access each other's environments and resources, but they cannot access staging or production resources. The staging environment needs access to some services from production.

What should you do to isolate development environments from staging and production?

- A. Create a project for development and test and another for staging and production.
- B. Create a network for development and test and another for staging and production.
- C. Create one subnetwork for development and another for staging and production.
- D. Create one project for development, a second for staging and a third for production.

**Answer:** D

### NEW QUESTION 3

- (Topic 1)

For this question, refer to the Mountkirk Games case study.

Mountkirk Games' gaming servers are not automatically scaling properly. Last month, they rolled out a new feature, which suddenly became very popular. A record number of users are trying to use the service, but many of them are getting 503 errors and very slow response times. What should they investigate first?

- A. Verify that the database is online.
- B. Verify that the project quota hasn't been exceeded.
- C. Verify that the new feature code did not introduce any performance bugs.
- D. Verify that the load-testing team is not running their tool against production.

**Answer:** B

#### Explanation:

503 is service unavailable error. If the database was online everyone would get the 503 error.

[https://cloud.google.com/docs/quota#capping\\_usage](https://cloud.google.com/docs/quota#capping_usage)

### NEW QUESTION 4

- (Topic 1)

For this question, refer to the Mountkirk Games case study.

Mountkirk Games wants to set up a real-time analytics platform for their new game. The new platform must meet their technical requirements. Which combination of Google technologies will meet all of their requirements?

- A. Container Engine, Cloud Pub/Sub, and Cloud SQL
- B. Cloud Dataflow, Cloud Storage, Cloud Pub/Sub, and BigQuery
- C. Cloud SQL, Cloud Storage, Cloud Pub/Sub, and Cloud Dataflow
- D. Cloud Dataproc, Cloud Pub/Sub, Cloud SQL, and Cloud Dataflow
- E. Cloud Pub/Sub, Compute Engine, Cloud Storage, and Cloud Dataproc

**Answer:** B

#### Explanation:

A real time requires Stream / Messaging so Pub/Sub, Analytics by Big Query.

Ingest millions of streaming events per second from anywhere in the world with Cloud Pub/Sub, powered by Google's unique, high-speed private network. Process the streams with Cloud Dataflow to ensure reliable, exactly-once, low-latency data transformation. Stream the transformed data into BigQuery, the cloud-native data warehousing service, for immediate analysis via SQL or popular visualization tools.

From scenario: They plan to deploy the game's backend on Google Compute Engine so they can capture streaming metrics, run intensive analytics.

Requirements for Game Analytics Platform

- ? Dynamically scale up or down based on game activity
- ? Process incoming data on the fly directly from the game servers
- ? Process data that arrives late because of slow mobile networks
- ? Allow SQL queries to access at least 10 TB of historical data
- ? Process files that are regularly uploaded by users' mobile devices
- ? Use only fully managed services

References: <https://cloud.google.com/solutions/big-data/stream-analytics/>

### NEW QUESTION 5

- (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 6

- (Topic 2)

For this question, refer to the TerramEarth case study.

TerramEarth's 20 million vehicles are scattered around the world. Based on the vehicle's location its telemetry data is stored in a Google Cloud Storage (GCS) regional bucket (US, Europe, or Asia). The CTO has asked you to run a report on the raw telemetry data to determine why vehicles are breaking down after 100 K miles. You want to run this job on all the data. What is the most cost-effective way to run this job?

- A. Move all the data into 1 zone, then launch a Cloud Dataproc cluster to run the job.
- B. Move all the data into 1 region, then launch a Google Cloud Dataproc cluster to run the job.
- C. Launch a cluster in each region to preprocess and compress the raw data, then move the data into a multi region bucket and use a Dataproc cluster to finish the job.
- D. Launch a cluster in each region to preprocess and compress the raw data, then move the data into a region bucket and use a Cloud Dataproc cluster to finish the job

**Answer:** D

#### Explanation:

Storage guarantees 2 replicates which are geo diverse (100 miles apart) which can get better remote latency and availability.

More importantly, is that multiregional heavily leverages Edge caching and CDNs to provide the content to the end users.

All this redundancy and caching means that Multiregional comes with overhead to sync and ensure consistency between geo-diverse areas. As such, it's much better for write-once- read-many scenarios. This means frequently accessed (e.g. "hot" objects) around the world, such as website content, streaming videos, gaming or mobile applications.

References: <https://medium.com/google-cloud/google-cloud-storage-what-bucket-class-for-the-best-performance-5c847ac8f9f2>

### NEW QUESTION 7

- (Topic 2)

For this question refer to the TerramEarth case study.

Which of TerramEarth's legacy enterprise processes will experience significant change as a result of increased Google Cloud Platform adoption.

- A. Opex/capex allocation, LAN changes, capacity planning
- B. Capacity planning, TCO calculations, opex/capex allocation
- C. Capacity planning, utilization measurement, data center expansion
- D. Data Center expansion, TCO calculations, utilization measurement

**Answer:** B

#### Explanation:

Capacity planning, TCO calculations, opex/capex allocation From the case study, it can conclude that Management (CXO) all concern rapid provision of resources (infrastructure)

for growing as well as cost management, such as Cost optimization in Infrastructure, trade up front capital expenditures (Capex) for ongoing operating expenditures (Opex), and Total cost of ownership (TCO)

### NEW QUESTION 8

- (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 9

- (Topic 2)

For this question, refer to the TerramEarth case study.

The TerramEarth development team wants to create an API to meet the company's business requirements. You want the development team to focus their development effort on business value versus creating a custom framework. Which method should they use?

- A. Use Google App Engine with Google Cloud Endpoint
- B. Focus on an API for dealers and partners.
- C. Use Google App Engine with a JAX-RS Jersey Java-based framework
- D. Focus on an API for the public.
- E. Use Google App Engine with the Swagger (open API Specification) framework
- F. Focus on an API for the public.
- G. Use Google Container Engine with a Django Python container
- H. Focus on an API for the public.
- I. Use Google Container Engine with a Tomcat container with the Swagger (Open API Specification) framework
- J. Focus on an API for dealers and partners.

**Answer:** A

**Explanation:**

[https://cloud.google.com/endpoints/docs/openapi/about-cloud-endpoints?hl=en\\_US&\\_ga=2.21787131.-1712523161.1522785064](https://cloud.google.com/endpoints/docs/openapi/about-cloud-endpoints?hl=en_US&_ga=2.21787131.-1712523161.1522785064)

<https://cloud.google.com/endpoints/docs/openapi/architecture-overview> <https://cloud.google.com/storage/docs/gsutil/commands/test>

Develop, deploy, protect and monitor your APIs with Google Cloud Endpoints. Using an Open API Specification or one of our API frameworks, Cloud Endpoints gives you the tools you need for every phase of API development.

From scenario: Business Requirements

Decrease unplanned vehicle downtime to less than 1 week, without increasing the cost of carrying surplus inventory

Support the dealer network with more data on how their customers use their equipment to better position new products and services

Have the ability to partner with different companies – especially with seed and fertilizer suppliers in the fast-growing agricultural business – to create compelling joint offerings for their customers.

Reference: <https://cloud.google.com/certification/guides/cloud-architect/casestudy-terramearth>

#### NEW QUESTION 10

- (Topic 2)

For this question, refer to the TerramEarth case study

You analyzed TerramEarth's business requirement to reduce downtime, and found that they can achieve a majority of time saving by reducing customers' wait time for parts. You decided to focus on reduction of the 3 weeks aggregate reporting time. Which modifications to the company's processes should you recommend?

- A. Migrate from CSV to binary format, migrate from FTP to SFTP transport, and develop machine learning analysis of metrics.
- B. Migrate from FTP to streaming transport, migrate from CSV to binary format, and develop machine learning analysis of metrics.
- C. Increase fleet cellular connectivity to 80%, migrate from FTP to streaming transport, and develop machine learning analysis of metrics.
- D. Migrate from FTP to SFTP transport, develop machine learning analysis of metrics, and increase dealer local inventory by a fixed factor.

**Answer:** C

**Explanation:**

The Avro binary format is the preferred format for loading compressed data. Avro data is faster to load because the data can be read in parallel, even when the data blocks are compressed.

Cloud Storage supports streaming transfers with the gsutil tool or boto library, based on HTTP chunked transfer encoding. Streaming data lets you stream data to and from your Cloud Storage account as soon as it becomes available without requiring that the data be first saved to a separate file. Streaming transfers are useful if you have a process that generates data and you do not want to buffer it locally before uploading it, or if you want to send the result from a computational pipeline directly into Cloud Storage.

References: <https://cloud.google.com/storage/docs/streaming> <https://cloud.google.com/bigquery/docs/loading-data>

#### NEW QUESTION 10

- (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 11

- (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 13

- (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 18

- (Topic 4)

For this question, refer to the Dress4Win case study.

As part of their new application experience, Dress4Wm allows customers to upload images of themselves. The customer has exclusive control over who may view these images. Customers should be able to upload images with minimal latency and also be shown their images quickly on the main application page when they log in. Which configuration should Dress4Win use?

- A. Store image files in a Google Cloud Storage bucket
- B. Use Google Cloud Datastore to maintain metadata that maps each customer's ID and their image files.
- C. Store image files in a Google Cloud Storage bucket
- D. Add custom metadata to the uploaded images in Cloud Storage that contains the customer's unique ID.
- E. Use a distributed file system to store customers' image
- F. As storage needs increase, add more persistent disks and/or node
- G. Assign each customer a unique ID, which sets each file's owner attribute, ensuring privacy of images.
- H. Use a distributed file system to store customers' image
- I. As storage needs increase, add more persistent disks and/or node
- J. Use a Google Cloud SQL database to maintain metadata that maps each customer's ID to their image files.

**Answer:** A

### NEW QUESTION 19

- (Topic 4)

Dress4win has end to end tests covering 100% of their endpoints.

They want to ensure that the move of cloud does not introduce any new bugs.

Which additional testing methods should the developers employ to prevent an outage?

- A. They should run the end to end tests in the cloud staging environment to determine if the code is working as intended.
- B. They should enable google stack driver debugger on the application code to show errors in the code
- C. They should add additional unit tests and production scale load tests on their cloud staging environment.
- 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 24

- (Topic 4)

For this question, refer to the Dress4Win case study.

At Dress4Win, an operations engineer wants to create a low-cost solution to remotely archive copies of database backup files. The database files are compressed tar files stored in their current data center. How should he proceed?

- A. Create a cron script using gsutil to copy the files to a Coldline Storage bucket.
- B. Create a cron script using gsutil to copy the files to a Regional Storage bucket.
- C. Create a Cloud Storage Transfer Service Job to copy the files to a Coldline Storage bucket.
- D. Create a Cloud Storage Transfer Service job to copy the files to a Regional Storage bucket.

**Answer:** A

#### Explanation:

Follow these rules of thumb when deciding whether to use gsutil or Storage Transfer Service:

? When transferring data from an on-premises location, use gsutil.

? When transferring data from another cloud storage provider, use Storage Transfer Service.

? Otherwise, evaluate both tools with respect to your specific scenario.

Use this guidance as a starting point. The specific details of your transfer scenario will also help you determine which tool is more appropriate

<https://cloud.google.com/storage-transfer/docs/overview>

#### NEW QUESTION 28

- (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 31

- (Topic 4)

The current Dress4win system architecture has high latency to some customers because it is located in one data center.

As of a future evaluation and optimizing for performance in the cloud, Dress4win wants to distribute its system architecture to multiple locations when Google cloud platform. Which approach should they use?

- A. Use regional managed instance groups and a global load balancer to increase performance because the regional managed instance group can grow instances in each region separately based on traffic.
- B. Use a global load balancer with a set of virtual machines that forward the requests to a closer group of virtual machines managed by your operations team.
- C. Use regional managed instance groups and a global load balancer to increase reliability by providing automatic failover between zones in different regions.
- D. Use a global load balancer with a set of virtual machines that forward the requests to a closer group of virtual machines as part of a separate managed instance groups.

**Answer:** A

#### NEW QUESTION 33

- (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 34

- (Topic 5)

Your company is planning to upload several important files to Cloud Storage. After the upload is completed, they want to verify that the upload content is identical to what they have on- premises. You want to minimize the cost and effort of performing this check. What should you do?

A.

- 1) Use gsutil -m to upload all the files to Cloud Storage.
- 2) Use gsutil cp to download the uploaded files
- 3) Use Linux diff to compare the content of the files

B.

- 1) Use gsutil -m to upload all the files to Cloud Storage.
- 2) Develop a custom Java application that computes CRC32C hashes
- 3) Use gsutil ls -L gs://[YOUR\_BUCKET\_NAME] to collect CRC32C hashes of the uploaded files
- 4) Compare the hashes

C.

- 1) Use Linux shasum to compute a digest of files you want to upload
- 2) Use gsutil -m to upload all the files to the Cloud Storage
- 3) Use gsutil cp to download the uploaded files
- 4) Use Linux shasum to compute a digest of the downloaded files 5. Compare the hashes

D.

- 1) Use gsutil -m to upload all the files to Cloud Storage.
- 2) Use gsutil hash -c FILE\_NAME to generate CRC32C hashes of all on-premises files 3) Use gsutil ls -L gs://[YOUR\_BUCKET\_NAME] to collect CRC32C hashes of the uploaded files
- 4) Compare the hashes

A.

**Answer: D**

**Explanation:**

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

#### NEW QUESTION 37

- (Topic 5)

Your company has an application running on multiple Compute Engine instances. You need to ensure that the application can communicate with an on-premises service that requires high throughput via internal IPs, while minimizing latency. What should you do?

- A. Use OpenVPN to configure a VPN tunnel between the on-premises environment and Google Cloud.
- B. Configure a direct peering connection between the on-premises environment and Google Cloud.
- C. Use Cloud VPN to configure a VPN tunnel between the on-premises environment and Google Cloud.
- D. Configure a Cloud Dedicated Interconnect connection between the on-premises environment and Google Cloud.

**Answer: D**

**Explanation:**

Reference <https://cloud.google.com/architecture/setting-up-private-access-to-cloud-apis-through-vpn-tunnels>

#### NEW QUESTION 38

- (Topic 5)

Your company recently acquired a company that has infrastructure in Google Cloud. Each company has its own Google Cloud organization. Each company is using a Shared Virtual Private Cloud (VPC) to provide network connectivity for its applications. Some of the subnets used by both companies overlap. In order for both businesses to integrate, the applications need to have private network connectivity. These applications are not on overlapping subnets. You want to provide connectivity with minimal re-engineering. What should you do?

- A. Set up VPC peering and peer each Shared VPC together
- B. Configure SSH port forwarding on each application to provide connectivity between applications in the different Shared VPCs
- C. Migrate the projects from the acquired company into your company's Google Cloud organization. Relaunch the instances in your company's Shared VPC
- D. Set up a Cloud VPN gateway in each Shared VPC and peer Cloud VPNs

**Answer: B**

#### NEW QUESTION 43

- (Topic 5)

You have developed an application using Cloud ML Engine that recognizes famous paintings from uploaded images. You want to test the application and allow specific people to upload images for the next 24 hours. Not all users have a Google Account. How should you have users upload images?

- A. Have users upload the images to Cloud Storage
- B. Protect the bucket with a password that expires after 24 hours.
- C. Have users upload the images to Cloud Storage using a signed URL that expires after 24 hours.
- D. Create an App Engine web application where users can upload images
- E. Configure App Engine to disable the application after 24 hours
- F. Authenticate users via Cloud Identity.
- G. Create an App Engine web application where users can upload images for the next 24 hours
- H. Authenticate users via Cloud Identity.

**Answer: A**

**Explanation:**

<https://cloud.google.com/blog/products/storage-data-transfer/uploading-images-directly-to-cloud-storage-by-using-signed-url>

#### NEW QUESTION 45

- (Topic 5)

You need to ensure reliability for your application and operations by supporting reliable task a 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 48

- (Topic 5)

A development manager is building a new application He asks you to review his requirements and identify what cloud technologies he can use to meet them. The application must

- \* 1. Be based on open-source technology for cloud portability
- \* 2. Dynamically scale compute capacity based on demand
- \* 3. Support continuous software delivery
- \* 4. Run multiple segregated copies of the same application stack
- \* 5. Deploy application bundles using dynamic templates
- \* 6. Route network traffic to specific services based on URL

Which combination of technologies will meet all of his requirements?

- A. Google Container Engine, Jenkins, and Helm
- B. Google Container Engine and Cloud Load Balancing
- C. Google Compute Engine and Cloud Deployment Manager
- D. Google Compute Engine, Jenkins, and Cloud Load Balancing

**Answer:** A

#### Explanation:

Helm for managing Kubernetes

Kubernetes can base on the URL to route traffic to different location (path)

<https://cloud.google.com/kubernetes-engine/docs/tutorials/http-balancer> eg.apiVersion: networking.k8s.io/v1beta1

kind: Ingress metadata:

name: fanout-ingress spec:

rules:

- http: paths:

- path: /\* backend:

serviceName: web servicePort: 8080

- path: /v2/\* backend: serviceName: web2 servicePort: 8080

#### NEW QUESTION 49

- (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 job
- 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 50

- (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 52**

- (Topic 5)

Your company has just recently activated Cloud Identity to manage users. The Google Cloud Organization has been configured as wed. The security learn 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 o 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 rote at root organization level Write a bash script that• Lists all me IAM rules of all projects within the organization• Deletes all users that do not belong to the company domainCreate a Compute Engine instance m 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 53**

- (Topic 5)

You are tasked with building an online analytical processing (OLAP) marketing analytics and reporting tool.

This requires a relational database that can operate on hundreds of terabytes of data. What is the Google recommended tool for such applications?

- A. Cloud Spanner, because it is globally distributed
- B. Cloud SQL, because it is a fully managed relational database
- C. Cloud Firestore, because it offers real-time synchronization across devices
- D. BigQuery, because it is designed for large-scale processing of tabular data

**Answer: A**

**Explanation:**

Reference: <https://cloud.google.com/files/BigQueryTechnicalWP.pdf>

**NEW QUESTION 57**

- (Topic 5)

You are deploying a PHP App Engine Standard service with SQL as the backend. You want to minimize the number of queries to the database. What should you do?

- A. Set the memcache service level to dedicate
- B. Create a key from the hash of the query, and returndatabase values from memcache before issuing a query to Cloud SQL.
- C. Set the memcache service level to dedicate
- D. Create a cron task that runs every minute to populate the cache with keys containing query results.
- E. Set the memcache service level to share
- F. Create a cron task that runs every minute to save all expected queries to a key called “cached-queries”.
- G. Set the memcache service level to share
- H. Create a key called “cached-queries”, and return databasevalues from the key before using a query to Cloud SQL.

**Answer: A**

**Explanation:**

<https://cloud.google.com/appengine/docs/standard/php/memcache/using>

**NEW QUESTION 61**

- (Topic 5)

Your company is designing its data lake on Google Cloud and wants to develop different ingestion pipelines to collect unstructured data from different sources. After the data is stored in Google Cloud, it will be processed in several data pipelines to build a recommendation engine for end users on the website. The structure of the data retrieved from the source systems can change at any time. The data must be stored exactly as it was retrieved for reprocessing purposes in case the data structure is incompatible with the current processing pipelines. You need to design an architecture to support the use case after you retrieve the data. What should you do?

- A. Send the data through the processing pipeline, and then store the processed data in a BigQuery table for reprocessing.
- B. Store the data in a BigQuery tabl
- C. Design the processing pipelines to retrieve the data from the table.
- D. Send the data through the processing pipeline, and then store the processed data in a Cloud Storage bucket for reprocessing.
- E. Store the data in a Cloud Storage bucke
- F. Design the processing pipelines to retrieve the data from the bucket

**Answer: D**

#### NEW QUESTION 66

- (Topic 5)

You are developing a globally scaled frontend for a legacy streaming backend data API.

This API expects

events in strict chronological order with no repeat data for proper processing.

Which products should you deploy to ensure guaranteed-once FIFO (first-in, first-out) delivery of data?

- A. Cloud Pub/Sub alone
- B. Cloud Pub/Sub to Cloud DataFlow
- C. Cloud Pub/Sub to Stackdriver
- D. Cloud Pub/Sub to Cloud SQL

**Answer:** B

#### Explanation:

Reference <https://cloud.google.com/pubsub/docs/ordering>

#### NEW QUESTION 67

- (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 latency
- 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 cluster
- 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 71

- (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 73

- (Topic 5)

Your customer runs a web service used by e-commerce sites to offer product recommendations to users. The company has begun experimenting with a machine learning model on Google Cloud Platform to improve the quality of results.

What should the customer do to improve their model's results over time?

- A. Export Cloud Machine Learning Engine performance metrics from Stackdriver to BigQuery, to be used to analyze the efficiency of the model.
- B. Build a roadmap to move the machine learning model training from Cloud GPUs to Cloud TPUs, which offer better results.
- C. Monitor Compute Engine announcements for availability of newer CPU architectures, and deploy the model to them as soon as they are available for additional performance.
- D. Save a history of recommendations and results of the recommendations in BigQuery, to be used as training data.

**Answer:** D

#### Explanation:

<https://cloud.google.com/solutions/building-a-serverless-ml-model>

#### NEW QUESTION 75

- (Topic 5)

You are implementing the infrastructure for a web service on Google Cloud. The web service needs to receive and store the data from 500,000 requests per second. The data will be queried later in real time, based on exact matches of a known set of attributes. There will be periods where the web service will not receive any requests. The business wants to keep costs low. Which web service platform and database should you use for the application?

- A. Cloud Run and BigQuery
- B. Cloud Run and Cloud Bigtable
- C. A Compute Engine autoscaling managed instance group and BigQuery
- D. A Compute Engine autoscaling managed instance group and Cloud Bigtable

**Answer:** B

#### Explanation:

<https://cloud.google.com/run/docs/about-instance-autoscaling> <https://cloud.google.com/blog/topics/developers-practitioners/bigtable-vs-bigquery-whats-difference>

#### NEW QUESTION 76

- (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 81

- (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)

Your marketing department wants to send out a promotional email campaign. The development team wants to minimize direct operation management. They project a wide range of possible customer responses, from 100 to 500,000 click-throughs per day. The link leads to a simple website that explains the promotion and collects user information and preferences. Which infrastructure should you recommend? (CHOOSE TWO)

- A. Use Google App Engine to serve the website and Google Cloud Datastore to store user data.
- B. Use a Google Container Engine cluster to serve the website and store data to persistent disk.

- C. Use a managed instance group to serve the website and Google Cloud Bigtable to store user data.
- D. Use a single compute Engine virtual machine (VM) to host a web server, backed by Google Cloud SQL.

**Answer:** AC

**Explanation:**

Reference: <https://cloud.google.com/storage-options/>  
References: <https://cloud.google.com/storage-options/>

**NEW QUESTION 87**

- (Topic 5)

All compute Engine instances in your VPC should be able to connect to an Active Directory server on specific ports. Any other traffic emerging from your instances is not allowed. You want to enforce this using VPC firewall rules. How should you configure the firewall rules?

- A. Create an egress rule with priority 1000 to deny all traffic for all instance
- B. Create another egress rule with priority 100 to allow the Active Directory traffic for all instances.
- C. Create an egress rule with priority 100 to deny all traffic for all instance
- D. Create another egress rule with priority 1000 to allow the Active Directory traffic for all instances.
- E. Create an egress rule with priority 1000 to allow the Active Directory traffi
- F. Rely on the implied denyegress rule with priority 100 to block all traffic for all instances.
- G. Create an egress rule with priority 100 to allow the Active Directory traffi
- H. Rely on the implied deny egress rule with priority 1000 to block all traffic for all instances.

**Answer:** B

**Explanation:**

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

**NEW QUESTION 91**

- (Topic 5)

You want to enable your running Google Container Engine cluster to scale as demand for your application changes. What should you do?

- A. Add additional nodes to your Container Engine cluster using the following command: `gcloud container clusters resize CLUSTER_NAME --size 10`
- B. Add a tag to the instances in the cluster with the following command: `gcloud compute instances add-tags INSTANCE --tags enable --autoscaling max-nodes=10`
- C. Update the existing Container Engine cluster with the following command: `gcloud alpha container clusters update mycluster --enable-autoscaling --min-nodes=1 --max-nodes=10`
- D. Create a new Container Engine cluster with the following command: `gcloud alpha container clusters create mycluster --enable-autocaling --min-nodes=1 --max-nodes=10` and redeploy your application.

**Answer:** B

**Explanation:**

<https://cloud.google.com/kubernetes-engine/docs/concepts/cluster-autoscaler>  
Cluster autoscaling  
`--enable-autoscaling`  
Enables autoscaling for a node pool.  
Enables autoscaling in the node pool specified by `--node-pool` or the default node pool if `--node-pool` is not provided.  
Where:  
`--max-nodes=MAX_NODES`  
Maximum number of nodes in the node pool.  
Maximum number of nodes to which the node pool specified by `--node-pool` (or default node pool if unspecified) can scale.

**NEW QUESTION 96**

- (Topic 5)

You are creating an App Engine application that uses Cloud Datastore as its persistence layer. You need to retrieve several root entities for which you have the identifiers. You want to minimize the overhead in operations performed by Cloud Datastore. What should you do?

- A. Create the Key object for each Entity and run a batch get operation
- B. Create the Key object for each Entity and run multiple get operations, one operation for each entity
- C. Use the identifiers to create a query filter and run a batch query operation
- D. Use the identifiers to create a query filter and run multiple query operations, one operation for each entity

**Answer:** C

**Explanation:**

<https://cloud.google.com/datastore/docs/concepts/entities#datastore-datastore-batch-upsert-nodejs>

**NEW QUESTION 98**

- (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 102

- (Topic 5)

You need to reduce the number of unplanned rollbacks of erroneous production deployments in your company's web hosting platform. Improvement to the QA/Test processes accomplished an 80% reduction. Which additional two approaches can you take to further reduce the rollbacks? Choose 2 answers

- A. Introduce a green-blue deployment model.
- B. Replace the QA environment with canary releases.
- C. Fragment the monolithic platform into microservices.
- D. Reduce the platform's dependency on relational database systems.
- E. Replace the platform's relational database systems with a NoSQL database.

**Answer:** AC

#### NEW QUESTION 107

- (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 109

- (Topic 5)

Your company operates nationally and plans to use GCP for multiple batch workloads, including some that are not time-critical. You also need to use GCP services that are HIPAA-certified and manage service costs.

How should you design to meet Google best practices?

- A. Provisioning preemptible VMs to reduce cos
- B. Discontinue use of all GCP services and APIs that are not HIPAA-compliant.
- C. Provisioning preemptible VMs to reduce cos
- D. Disable and then discontinue use of all GCP and APIs that are not HIPAA-compliant.
- E. Provision standard VMs in the same region to reduce cos
- F. Discontinue use of all GCPservices and APIs that are not HIPAA-compliant.
- G. Provision standard VMs to the same region to reduce cos
- H. Disable and then discontinue use of all GCP services and APIs that are not HIPAA-compliant.

**Answer:** B

**Explanation:**

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

#### NEW QUESTION 111

- (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 116

- (Topic 5)

You deploy your custom java application to google app engine. It fails to deploy and gives you the following stack trace:

```
Java.lang.SecurityException : SHA1 digest

At com.google.appengine.runtime.Request.pro

At

Sun.securityutil.manifestEntryVerifier.ver

At java . net . URLClassLoader . defineCla

At sun . reflect . GeneratedMethodAccessors

At

Sun.reflect . DelegatingMethodAccesorImpl.

At java . lang . reflect . MThod . invoke
```

- A. Recompile the CLoakedServlet class using and MD5 hash instead of SHA1
- B. Digitally sign all of your JAR files and redeploy your application.
- C. Upload missing JAR files and redeploy your application

**Answer:** B

#### NEW QUESTION 120

- (Topic 5)

You are running a cluster on Kubernetes Engine to serve a web application. Users are reporting that a specific part of the application is not responding anymore. You notice that all pods of your deployment keep restarting after 2 seconds. The application writes logs to standard output. You want to inspect the logs to find the cause of the issue. Which approach can you take?

- A. Review the Stackdriver logs for each Compute Engine instance that is serving as a node in the cluster.
- B. Review the Stackdriver logs for the specific Kubernetes Engine container that is serving the unresponsive part of the application.
- C. Connect to the cluster using gcloud credentials and connect to a container in one of the pods to read the logs.
- D. Review the Serial Port logs for each Compute Engine instance that is serving as a node in the cluster.

**Answer:** B

#### NEW QUESTION 124

- (Topic 5)

Your development team has installed a new Linux kernel module on the batch servers in Google Compute Engine (GCE) virtual machines (VMs) to speed up the nightly batch process. Two days after the installation, 50% of web application deployed in the same nightly batch run. You want to collect details on the failure to pass back to the development team. Which three actions should you take? Choose 3 answers

- A. Use Stackdriver Logging to search for the module log entries.
- B. Read the debug GCE Activity log using the API or Cloud Console.
- C. Use gcloud or Cloud Console to connect to the serial console and observe the logs.
- D. Identify whether a live migration event of the failed server occurred, using in the activity log.
- E. Adjust the Google Stackdriver timeline to match the failure time, and observe the batch server metrics.
- F. Export a debug VM into an image, and run the image on a local server where kernel log messages will be displayed on the native screen.

**Answer:** ACE

#### Explanation:

<https://www.flexera.com/blog/cloud/2013/12/google-compute-engine-live-migration-passes-the-test/>

"With live migration, the virtual machines are moved without any downtime or noticeable service degradation"

#### NEW QUESTION 126

- (Topic 5)

Your company has an application running as a Deployment in a Google Kubernetes Engine (GKE) cluster. When releasing new versions of the application via a rolling deployment, the team has been causing outages. The root cause of the outages is misconfigurations with parameters that are only used in production. You want to put preventive measures for this in the platform to prevent outages. What should you do?

- A. Configure liveness and readiness probes in the Pod specification
- B. Configure an uptime alert in Cloud Monitoring
- C. Create a Scheduled Task to check whether the application is available
- D. Configure health checks on the managed instance group

**Answer:** D

#### Explanation:

This option can help prevent outages caused by misconfigurations with parameters that are only used in production. Liveness and readiness probes are mechanisms to check the health and availability of the Pods and containers in a GKE cluster. Liveness probes determine if a container is still running, and if not, restart it. Readiness probes determine if a container is ready to serve requests, and if not, remove it from the load balancer. By configuring liveness and readiness probes in the Pod specification, you can ensure that your application can handle traffic and recover from failures gracefully during a rolling update. The other options are not optimal for this scenario, because they either do not prevent outages, but only alert or monitor them (B, C), or do not apply to GKE clusters, but to Compute Engine instances (D). References:

? <https://cloud.google.com/kubernetes-engine/docs/how-to/updating-apps>

? <https://cloud.google.com/blog/products/containers-kubernetes/kubernetes-best-practices-setting-up-health-checks-with-readiness-and-liveness-probes>

#### NEW QUESTION 129

- (Topic 5)

Your company has announced that they will be outsourcing operations functions. You want to allow developers to easily stage new versions of a cloud-based application in the production environment and allow the outsourced operations team to autonomously promote staged versions to production. You want to minimize the operational overhead of the solution. Which Google Cloud product should you migrate to?

- A. App Engine
- B. GKE On-Prem
- C. Compute Engine
- D. Google Kubernetes Engine

**Answer:** A

#### Explanation:

Reference: <https://cloud.google.com/security/compliance/eba-outsourcing-mapping-gcp>

#### NEW QUESTION 134

- (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 135

- (Topic 5)

As part of implementing their disaster recovery plan, your company is trying to replicate their production MySQL database from their private data center to their GCP project using a Google Cloud VPN connection.

They are experiencing latency issues and a small amount of packet loss that is disrupting the replication. What should they do?

- A. Configure their replication to use UDP.
- B. Configure a Google Cloud Dedicated Interconnect.
- C. Restore their database daily using Google Cloud SQL.
- D. Add additional VPN connections and load balance them.
- E. Send the replicated transaction to Google Cloud Pub/Sub.

**Answer:** B

#### NEW QUESTION 139

- (Topic 5)

Your company wants to track whether someone is present in a meeting room reserved for a scheduled meeting. There are 1000 meeting rooms across 5 offices on 3 continents. Each room is equipped with a motion sensor that reports its status every second. The data from the motion detector includes only a sensor ID and several different discrete items of information. Analysts will use this data, together with information about account owners and office locations. Which database type should you use?

- A. Flat file
- B. NoSQL
- C. Relational
- D. Blobstore

**Answer:** B

**Explanation:**

Relational databases were not designed to cope with the scale and agility challenges that face modern applications, nor were they built to take advantage of the commodity storage and processing power available today.

NoSQL fits well for:

– Developers are working with applications that create massive volumes of new, rapidly changing data types — structured, semi-structured, unstructured and polymorphic data.

**NEW QUESTION 140**

- (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 142**

- (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 146**

- (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 147**

- (Topic 5)

You are designing an application for use only during business hours. For the minimum viable product release, you'd like to use a managed product that automatically "scales to zero" so you don't incur costs when there is no activity.

Which primary compute resource should you choose?

- A. Cloud Functions
- B. Compute Engine
- C. Kubernetes Engine
- D. AppEngine flexible environment

**Answer:** A

**Explanation:**

<https://cloud.google.com/serverless-options>



#### NEW QUESTION 150

- (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 155

- (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 159

- (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 package dependencies.
- B. Create a custom VM image with all OS package dependencies.
- 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 163

- (Topic 5)

A news feed 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 168**

- (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 170**

- (Topic 5)

You need to deploy an application on Google Cloud that must run on a Debian Linux environment. The application requires extensive configuration in order to operate correctly. You want to ensure that you can install Debian distribution updates with minimal manual intervention whenever they become available. What should you do?

- A. Create a Compute Engine instance template using the most recent Debian image
- B. Create an instance from this template, and install and configure the application as part of the startup scrip
- C. Repeat this process whenever a new Google-managed Debian image becomes available.
- D. Create a Debian-based Compute Engine instance, install and configure the application, and use OS patch management to install available updates.
- E. Create an instance with the latest available Debian image
- F. Connect to the instance via SSH, and install and configure the application on the instanc
- G. Repeat this process whenever a new Google-managed Debian image becomes available.
- H. Create a Docker container with Debian as the base image
- I. Install and configure the application as part of the Docker image creation proces
- J. Host the container on Google Kubernetes Engine and restart the container whenever a new update is available.

**Answer:** B

**Explanation:**

Reference: <https://cloud.google.com/compute/docs/os-patch-management>

**NEW QUESTION 173**

- (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 section
- 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 section
- E. Search for the Create Instance 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 176

- (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 create new instance, you have the default Compute engine default service account but most services access including BigQuery is not enable. Create an instance Most access are not enabled by default You have 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 178

- (Topic 5)

You are designing a Data Warehouse on Google Cloud and want to store sensitive data in BigQuery. Your company requires you to generate encryption keys outside of Google Cloud. You need to implement a solution. What should you do?

- A. Generate a new key in Cloud Key Management Service (Cloud KMS). Store all data in Cloud Storage using the customer-managed key option and select the created key
- B. Set up a Dataflow pipeline to decrypt the data and to store it in a BigQuery dataset.
- C. Generate a new key in Cloud Key Management Service (Cloud KMS). Create a dataset in BigQuery using the customer-managed key option and select the created key
- D. Import a key in Cloud KM
- E. Store all data in Cloud Storage using the customer- managed key option and select the created key
- F. Set up a Dataflow pipeline to decrypt the data and to store it in a new BigQuery dataset.
- G. Import a key in Cloud KM
- H. Create a dataset in BigQuery using the customer-supplied key option and select the created key.

**Answer:** D

#### Explanation:

<https://cloud.google.com/bigquery/docs/customer-managed-encryption>

#### NEW QUESTION 183

- (Topic 5)

Your company has multiple on-premises systems that serve as sources for reporting. The data has not been maintained well and has become degraded over time. You want to use Google-recommended practices to detect anomalies in your company data. What should you do?

- A. Upload your files into Cloud Storage
- B. Use Cloud Datalab to explore and clean your data.
- C. Upload your files into Cloud Storage
- D. Use Cloud Dataprep to explore and clean your data.
- E. Connect Cloud Datalab to your on-premises system
- F. Use Cloud Datalab to explore and clean your data.
- G. Connect Cloud Dataprep to your on-premises system
- H. Use Cloud Dataprep to explore and clean your data.

**Answer:** B

#### Explanation:

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

#### NEW QUESTION 187

- (Topic 5)

Your team is developing a web application that will be deployed on Google Kubernetes Engine (GKE). Your CTO expects a successful launch and you need to ensure your application can handle the expected load of tens of thousands of users. You want to test the current deployment to ensure the latency of your application stays below a certain threshold. What should you do?

- A. Use a load testing tool to simulate the expected number of concurrent users and total requests to your application, and inspect the results.

- B. Enable autoscaling on the GKE cluster and enable horizontal pod autoscaling on your application deployment
- C. Send curl requests to your application, and validate if the auto scaling works.
- D. Replicate the application over multiple GKE clusters in every Google Cloud region. Configure a global HTTP(S) load balancer to expose the different clusters over a single global IP address.
- E. Use Cloud Debugger in the development environment to understand the latency between the different microservices.

**Answer:** B

#### NEW QUESTION 189

- (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 versio
- B. Configure traffic percentage between revisions.
- C. Deploy a new service to Cloud Run with the new versio
- 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 branc
- 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 Ru
- 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 193

- (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 publish 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 man 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 197

- (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 201

- (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 updat
- D. Select the Proactive update mode.
- E. Start a new rolling updat
- 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 202

- (Topic 5)

You are using a single Cloud SQL instance to serve your application from a specific zone.

You want to

introduce high availability. What should you do?

- A. Create a read replica instance in a different region
- B. Create a failover replica instance in a different region
- C. Create a read replica instance in the same region, but in a different zone
- D. Create a failover replica instance in the same region, but in a different zone

**Answer:** B

#### Explanation:

<https://cloud.google.com/sql/docs/mysql/high-availability>

#### NEW QUESTION 207

- (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 209

- (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 212

- (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 216

- (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 217**

- (Topic 5)

Your company is designing its application landscape on Compute Engine. Whenever a zonal outage occurs, the application should be restored in another zone as quickly as possible with the latest application data. You need to design the solution to meet this requirement. What should you do?

- A. Create a snapshot schedule for the disk containing the application data.
- B. Whenever a zonal outage occurs, use the latest snapshot to restore the disk in the same zone.
- C. Configure the Compute Engine instances with an instance template for the application, and use a regional persistent disk for the application data.
- D. Whenever a zonal outage occurs, use the instance template to spin up the application in another zone in the same region.
- E. Use the regional persistent disk for the application data.
- F. Create a snapshot schedule for the disk containing the application data.
- G. Whenever a zonal outage occurs, use the latest snapshot to restore the disk in another zone within the same region.
- H. Configure the Compute Engine instances with an instance template for the application, and use a regional persistent disk for the application data.
- I. Whenever a zonal outage occurs, use the instance template to spin up the application in another region.
- J. Use the regional persistent disk for the application data.

**Answer:** B

**Explanation:**

Regional persistent disk is a storage option that provides synchronous replication of data between two zones in a region. Regional persistent disks can be a good building block to use when you implement HA services in Compute Engine. <https://cloud.google.com/compute/docs/disks/high-availability-regional-persistent-disk>

**NEW QUESTION 220**

- (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 224**

- (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 228**

- (Topic 5)

You want to enable your running Google Kubernetes Engine cluster to scale as demand for your application changes. What should you do?

- A. Add additional nodes to your Kubernetes Engine cluster using the following command: `gcloud container clusters resize CLUSTER_Name --size 10`
- B. Add a tag to the instances in the cluster with the following command: `gcloud compute instances add-tags INSTANCE --tags enable-autoscaling max-nodes=10`
- C. Update the existing Kubernetes Engine cluster with the following command: `gcloud alpha container clusters update mycluster --enable-autoscaling --min-`

nodes=1 - -max-nodes=10

D. Create a new Kubernetes Engine cluster with the following command: `gcloud alpha container clusters create mycluster - --enable-autoscaling - --min-nodes=1 - --max-nodes=10` and redeploy your application

**Answer: C**

**Explanation:**

<https://cloud.google.com/kubernetes-engine/docs/concepts/cluster-autoscaler> To enable autoscaling for an existing node pool, run the following command:  
`gcloud container clusters update [CLUSTER_NAME] --enable-autoscaling --min-nodes 1 --max-nodes 10 --zone [COMPUTE_ZONE] --node-pool default-pool`

**NEW QUESTION 232**

- (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 237**

- (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 240**

- (Topic 5)

You are using Cloud SQL as the database backend for a large CRM deployment. You want to scale as usage increases and ensure that you don't run out of storage, maintain 75% CPU usage cores, and keep replication lag below 60 seconds. What are the correct steps to meet your requirements?

- A. 1) Enable automatic storage increase for the instance. 2) Create a Stackdriver alert when CPU usage exceeds 75%, and change the instance type to reduce CPU usage. 3) Create a Stackdriver alert for replication lag, and shard the database to reduce replication time.
- B. 1) Enable automatic storage increase for the instance. 2) Change the instance type to a 32-core machine type to keep CPU usage below 75%. 3) Create a Stackdriver alert for replication lag, and shard the database to reduce replication time.
- C. 1) Create a Stackdriver alert when storage exceeds 75%, and increase the available storage on the instance to create more space. 2) Deploy memcached to reduce CPU load. 3) Change the instance type to a 32-core machine type to reduce replication lag.
- D. 1) Create a Stackdriver alert when storage exceeds 75%, and increase the available storage on the instance to create more space. 2) Deploy memcached to reduce CPU load. 3) Create a Stackdriver alert for replication lag, and change the instance type to a 32-core machine type to reduce replication lag.

**Answer: A**

**NEW QUESTION 245**

- (Topic 5)

Your company has developed a monolithic, 3-tier application to allow external users to upload and share files. The solution cannot be easily enhanced and lacks reliability. The development team would like to re-architect the application to adopt microservices and a fully managed service approach, but they need to convince their leadership that the effort is worthwhile. Which advantage(s) should they highlight to leadership?

- A. The new approach will be significantly less costly, make it easier to manage the underlying infrastructure, and automatically manage the CI/CD pipelines.
- B. The monolithic solution can be converted to a container with Docker.
- C. The generated container can then be deployed into a Kubernetes cluster.
- D. The new approach will make it easier to decouple infrastructure from application, develop and release new features, manage the underlying infrastructure, manage CI/CD pipelines and perform A/B testing, and scale the solution if necessary.
- E. The process can be automated with Migrate for Compute Engine.

**Answer: C**

**Explanation:**

The new approach will make it easier to decouple infrastructure from an application, develop and release new features, manage the underlying infrastructure, manage CI/CD pipelines and perform A/B testing, and scale the solution if necessary.

**NEW QUESTION 250**

- (Topic 5)

Your company provides a recommendation engine for retail customers. You are providing retail customers with an API where they can submit a user ID and the API returns a list of recommendations for that user. You are responsible for the API lifecycle and want to ensure stability for your customers in case the API makes backward-incompatible changes. You want to follow Google-recommended practices. What should you do?

- A. Create a distribution list of all customers to inform them of an upcoming backward- incompatible change at least one month before replacing the old API with the new API.
- B. Create an automated process to generate API documentation, and update the public API documentation as part of the CI/CD process when deploying an update to the API.
- C. Use a versioning strategy for the APIs that increases the version number on every backward-incompatible change.
- D. Use a versioning strategy for the APIs that adds the suffix "DEPRECATED" to the current API version number on every backward-incompatible change.
- E. Use the current version number for the new API.

**Answer:** C

**Explanation:**

<https://cloud.google.com/apis/design/versioning>

All Google API interfaces must provide a major version number, which is encoded at the end of the protobuf package, and included as the first part of the URI path for REST APIs. If an API introduces a breaking change, such as removing or renaming a field, it must increment its API version number to ensure that existing user code does not suddenly break.

**NEW QUESTION 251**

- (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 256**

- (Topic 5)

You have deployed several instances on Compute Engine. As a security requirement, instances cannot have a public IP address. There is no VPN connection between Google Cloud and your office, and you need to connect via SSH into a specific machine without violating the security requirements. What should you do?

- A. Configure Cloud NAT on the subnet where the instance is hosted.
- B. Create an SSH connection to the Cloud NAT IP address to reach the instance.
- C. Add all instances to an unmanaged instance group.
- D. Configure TCP Proxy Load Balancing with the instance group as a backend.
- E. Connect to the instance using the TCP Proxy IP.
- F. Configure Identity-Aware Proxy (IAP) for the instance and ensure that you have the role of IAP-secured Tunnel User.
- G. Use the gcloud command line tool to ssh into the instance.
- H. Create a bastion host in the network to SSH into the bastion host from your office location.
- I. From the bastion host, SSH into the desired instance.

**Answer:** C

**Explanation:**

[https://cloud.google.com/iap/docs/using-tcp-forwarding#tunneling\\_with\\_ssh](https://cloud.google.com/iap/docs/using-tcp-forwarding#tunneling_with_ssh)

Leveraging the BeyondCorp security model. "This January, we enhanced context-aware access capabilities in Cloud Identity-Aware Proxy (IAP) to help you protect SSH and RDP access to your virtual machines (VMs)—without needing to provide your VMs with public IP addresses, and without having to set up bastion hosts."

<https://cloud.google.com/blog/products/identity-security/cloud-iap-enables-context-aware-access-to-vms-via-ssh-and-rdp-without-bastion-hosts>

Reference: <https://cloud.google.com/solutions/connecting-securely>

**NEW QUESTION 257**

- (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 258

- (Topic 5)

The operations team in your company wants to save Cloud VPN log events (or one year). You need to configure the cloud infrastructure to save the logs. What should you do?

- A. Set up a filter in Cloud Logging and a topic in Pub/Sub to publish the logs
- B. Set up a Cloud Logging Dashboard titled Cloud VPN Logs, and then add a chart that queries for the VPN metrics over a one-year time period
- C. Enable the Compute Engine API and then enable logging on the firewall rules that match the traffic you want to save
- D. Set up a filter in Cloud Logging and a Cloud Storage bucket as an export target for the logs you want to save

**Answer:** D

#### NEW QUESTION 263

- (Topic 5)

Your company is using BigQuery as its enterprise data warehouse. Data is distributed over several Google Cloud projects. All queries on BigQuery need to be billed on a single project. You want to make sure that no query costs are incurred on the projects that contain the data. Users should be able to query the datasets, but not edit them.

How should you configure users' access roles?

- A. Add all users to a group
- B. Grant the group the role of BigQuery user on the billing project and BigQuery dataViewer on the projects that contain the data.
- C. Add all users to a group
- D. Grant the group the roles of BigQuery dataViewer on the billing project and BigQuery user on the projects that contain the data.
- E. Add all users to a group
- F. Grant the group the roles of BigQuery jobUser on the billing project and BigQuery dataViewer on the projects that contain the data.
- G. Add all users to a group
- H. Grant the group the roles of BigQuery dataViewer on the billing project and BigQuery jobUser on the projects that contain the data.

**Answer:** A

#### Explanation:

Reference: <https://cloud.google.com/bigquery/docs/running-queries>

#### NEW QUESTION 266

- (Topic 5)

Your customer is moving their corporate applications to Google Cloud Platform. The security team wants detailed visibility of all projects in the organization. You provision the Google Cloud Resource Manager and set up yourself as the org admin. What Google Cloud Identity and Access Management (Cloud IAM) roles should you give to the security team?

- A. Org viewer, project owner
- B. Org viewer, project viewer
- C. Org admin, project browser
- D. Project owner, network admin

**Answer:** B

#### Explanation:

<https://cloud.google.com/iam/docs/using-iam-securely>

#### NEW QUESTION 271

- (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 275

- (Topic 5)

Your company just finished a rapid lift and shift to Google Compute Engine for your compute needs. You have another 9 months to design and deploy a more cloud-native solution. Specifically, you want a system that is no-ops and auto-scaling. Which two compute products should you choose? Choose 2 answers

- A. Compute Engine with containers
- B. Google Kubernetes Engine with containers

- C. Google App Engine Standard Environment
- D. Compute Engine with custom instance types
- E. Compute Engine with managed instance groups

**Answer:** BC

**Explanation:**

B: With Container Engine, Google will automatically deploy your cluster for you, update, patch, secure the nodes.

Kubernetes Engine's cluster autoscaler automatically resizes clusters based on the demands of the workloads you want to run.

C: Solutions like Datastore, BigQuery, AppEngine, etc are truly NoOps.

App Engine by default scales the number of instances running up and down to match the load, thus providing consistent performance for your app at all times while minimizing idle instances and thus reducing cost.

Note: At a high level, NoOps means that there is no infrastructure to build out and manage during usage of the platform. Typically, the compromise you make with NoOps is that you lose control of the underlying infrastructure.

References: <https://www.quora.com/How-well-does-Google-Container-Engine-support-Google-Cloud-Platform%E2%80%99s-NoOps-claim>

**NEW QUESTION 279**

- (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 284**

- (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 285**

- (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 290**

- (Topic 5)

You are designing a mobile chat application. You want to ensure people cannot spoof chat messages, by providing a message were sent by a specific user. What should you do

- A. Tag messages client side with the originating user identifier and the destination user.
- B. Encrypt the message client side using block-based encryption with a shared key.
- C. Use public key infrastructure (PKI) to encrypt the message client side using the originating user's privatekey.
- D. Use a trusted certificate authority to enable SSL connectivity between the client application and the server.

**Answer:** C

#### NEW QUESTION 294

- (Topic 5)

You want to create a private connection between your instances on Compute Engine and your on-premises data center. You require a connection of at least 20 Gbps. You want to follow Google-recommended practices. How should you set up the connection?

- A. Create a VPC and connect it to your on-premises data center using Dedicated Interconnect.
- B. Create a VPC and connect it to your on-premises data center using a single Cloud VPN.
- C. Create a Cloud Content Delivery Network (Cloud CDN) and connect it to your on- premises data centerusing Dedicated Interconnect.
- D. Create a Cloud Content Delivery Network (Cloud CDN) and connect it to your on- premises datacenterusing a single Cloud VPN.

**Answer:** A

#### Explanation:

Reference: <https://cloud.google.com/compute/docs/instances/connecting-advanced>

#### NEW QUESTION 297

- (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 298

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

**Answer:** A

#### NEW QUESTION 299

- (Topic 6)

For this question, refer to the Dress4Win case study. Which of the compute services should be migrated as –is and would still be an optimized architecture for performance in the cloud?

- A. Web applications deployed using App Engine standard environment
- B. RabbitMQ deployed using an unmanaged instance group
- C. Hadoop/Spark deployed using Cloud Dataproc Regional in High Availability mode
- D. Jenkins, monitoring, bastion hosts, security scanners services deployed on custom machine types

**Answer:** C

#### NEW QUESTION 300

- (Topic 6)

For this question, refer to the Dress4Win case study. To be legally compliant during an audit, Dress4Win must be able to give insights in all administrative actions that modify the configuration or metadata of resources on Google Cloud. What should you do?

- A. Use Stackdriver Trace to create a trace list analysis.
- B. Use Stackdriver Monitoring to create a dashboard on the project's activity.
- C. Enable Cloud Identity-Aware Proxy in all projects, and add the group of Administrators as a member.
- D. Use the Activity page in the GCP Console and Stackdriver Logging to provide the required insight.

**Answer:** A

**Explanation:**

<https://cloud.google.com/logging/docs/audit/>

**NEW QUESTION 304**

- (Topic 7)

TerramEarth 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 minut
- 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 minut
- 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 305**

- (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 zone
- 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. Cloud Run services to multiple region
- G. In Cloud DNS, create a latency-based DNS name that points to the services.
- H. Deploy Cloud Run services to multiple availability zone
- 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 308**

- (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 313**

- (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 316

- (Topic 8)

For this question, refer to the Mountkirk Games case study. Which managed storage option meets Mountkirk's technical requirement for storing game activity in a time series database service?

- A. Cloud Bigtable
- B. Cloud Spanner
- C. BigQuery
- D. Cloud Datastore

**Answer:** A

**Explanation:**

<https://cloud.google.com/blog/products/databases/getting-started-with-time-series-trend-predictions-using-gcp>

#### NEW QUESTION 317

- (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 321

- (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 326

- (Topic 8)

For this question, refer to the Mountkirk Games case study. You need to analyze and define the technical architecture for the compute workloads for your company, Mountkirk Games. Considering the Mountkirk Games business and technical requirements, what should you do?

- A. Create network load balancer
- B. Use preemptible Compute Engine instances.
- C. Create network load balancer
- D. Use non-preemptible Compute Engine instances.
- E. Create a global load balancer with managed instance groups and autoscaling policies
- F. Use preemptible Compute Engine instances.
- G. Create a global load balancer with managed instance groups and autoscaling policies
- H. Use non-preemptible Compute Engine instances.

**Answer:** D

#### NEW QUESTION 328

- (Topic 8)

Your development teams release new versions of games running on Google Kubernetes Engine (GKE) daily. You want to create service level indicators (SLIs) to evaluate the quality of the new versions from the user's perspective. What should you do?

- A. Create CPU Utilization and Request Latency as service level indicators.
- B. Create GKE CPU Utilization and Memory Utilization as service level indicators.
- C. Create Request Latency and Error Rate as service level indicators.
- D. Create Server Uptime and Error Rate as service level indicators.

**Answer:** C

#### NEW QUESTION 329

- (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 332

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