

# Google

## Exam Questions Professional-Cloud-Developer

Google Certified Professional - Cloud Developer



#### NEW QUESTION 1

- (Exam Topic 1)

For this question refer to the HipLocal case study.

HipLocal wants to reduce the latency of their services for users in global locations. They have created read replicas of their database in locations where their users reside and configured their service to read traffic using those replicas. How should they further reduce latency for all database interactions with the least amount of effort?

- A. Migrate the database to Bigtable and use it to serve all global user traffic.
- B. Migrate the database to Cloud Spanner and use it to serve all global user traffic.
- C. Migrate the database to Firestore in Datastore mode and use it to serve all global user traffic.
- D. Migrate the services to Google Kubernetes Engine and use a load balancer service to better scale the application.

**Answer:** D

#### NEW QUESTION 2

- (Exam Topic 1)

HipLocal's data science team wants to analyze user reviews. How should they prepare the data?

- A. Use the Cloud Data Loss Prevention API for redaction of the review dataset.
- B. Use the Cloud Data Loss Prevention API for de-identification of the review dataset.
- C. Use the Cloud Natural Language Processing API for redaction of the review dataset.
- D. Use the Cloud Natural Language Processing API for de-identification of the review dataset.

**Answer:** B

#### Explanation:

<https://cloud.google.com/dlp/docs/deidentify-sensitive-data>

#### NEW QUESTION 3

- (Exam Topic 1)

In order for HipLocal to store application state and meet their stated business requirements, which database service should they migrate to?

- A. Cloud Spanner
- B. Cloud Datastore
- C. Cloud Memorystore as a cache
- D. Separate Cloud SQL clusters for each region

**Answer:** D

#### NEW QUESTION 4

- (Exam Topic 1)

HipLocal is configuring their access controls.

Which firewall configuration should they implement?

- A. Block all traffic on port 443.
- B. Allow all traffic into the network.
- C. Allow traffic on port 443 for a specific tag.
- D. Allow all traffic on port 443 into the network.

**Answer:** D

#### NEW QUESTION 5

- (Exam Topic 1)

HipLocal's .net-based auth service fails under intermittent load. What should they do?

- A. Use App Engine for autoscaling.
- B. Use Cloud Functions for autoscaling.
- C. Use a Compute Engine cluster for the service.
- D. Use a dedicated Compute Engine virtual machine instance for the service.

**Answer:** D

#### Explanation:

Reference: <https://www.qwiklabs.com/focuses/611?parent=catalog>

#### NEW QUESTION 6

- (Exam Topic 1)

Which service should HipLocal use for their public APIs?

- A. Cloud Armor
- B. Cloud Functions
- C. Cloud Endpoints
- D. Shielded Virtual Machines

**Answer:** D

**NEW QUESTION 7**

- (Exam Topic 1)

HipLocal's APIs are showing occasional failures, but they cannot find a pattern. They want to collect some metrics to help them troubleshoot. What should they do?

- A. Take frequent snapshots of all of the VMs.
- B. Install the Stackdriver Logging agent on the VMs.
- C. Install the Stackdriver Monitoring agent on the VMs.
- D. Use Stackdriver Trace to look for performance bottlenecks.

**Answer:** C

**NEW QUESTION 8**

- (Exam Topic 2)

You are developing a single-player mobile game backend that has unpredictable traffic patterns as users interact with the game throughout the day and night. You want to optimize costs by ensuring that you have enough resources to handle requests, but minimize over-provisioning. You also want the system to handle traffic spikes efficiently. Which compute platform should you use?

- A. Cloud Run
- B. Compute Engine with managed instance groups
- C. Compute Engine with unmanaged instance groups
- D. Google Kubernetes Engine using cluster autoscaling

**Answer:** A

**NEW QUESTION 9**

- (Exam Topic 2)

Users are complaining that your Cloud Run-hosted website responds too slowly during traffic spikes. You want to provide a better user experience during traffic peaks. What should you do?

- A. Read application configuration and static data from the database on application startup.
- B. Package application configuration and static data into the application image during build time.
- C. Perform as much work as possible in the background after the response has been returned to the user.
- D. Ensure that timeout exceptions and errors cause the Cloud Run instance to exit quickly so a replacement instance can be started.

**Answer:** C

**NEW QUESTION 10**

- (Exam Topic 2)

Your company needs a database solution that stores customer purchase history and meets the following requirements:

Customers can query their purchase immediately after submission. Purchases can be sorted on a variety of fields. Distinct record formats can be stored at the same time. Which storage option satisfies these requirements?

- A. Firestore in Native mode
- B. Cloud Storage using an object read
- C. Cloud SQL using a SQL SELECT statement
- D. Firestore in Datastore mode using a global query

**Answer:** A

**NEW QUESTION 10**

- (Exam Topic 2)

You have written a Cloud Function that accesses other Google Cloud resources. You want to secure the environment using the principle of least privilege. What should you do?

- A. Create a new service account that has Editor authority to access the resource
- B. The deployer is given permission to get the access token.
- C. Create a new service account that has a custom IAM role to access the resource
- D. The deployer is given permission to get the access token.
- E. Create a new service account that has Editor authority to access the resource
- F. The deployer is given permission to act as the new service account.
- G. Create a new service account that has a custom IAM role to access the resource
- H. The deployer is given permission to act as the new service account.

**Answer:** D

**Explanation:**

Reference:

<https://cloud.google.com/blog/products/application-development/least-privilege-for-cloud-functions-using-cloud>

**NEW QUESTION 14**

- (Exam Topic 2)

You are using Cloud Run to host a web application. You need to securely obtain the application project ID and region where the application is running and display this information to users. You want to use the most performant approach. What should you do?

- A. Use HTTP requests to query the available metadata server at the <http://metadata.google.internal/endpoint> with the Metadata-Flavor: Google header.

- B. In the Google Cloud console, navigate to the Project Dashboard and gather configuration details. Navigate to the Cloud Run “Variables & Secrets” tab, and add the desired environment variables in Key:Value format.
- C. In the Google Cloud console, navigate to the Project Dashboard and gather configuration detail
- D. Write the application configuration information to Cloud Run's in-memory container filesystem.
- E. Make an API call to the Cloud Asset Inventory API from the application and format the request to include instance metadata.

**Answer:** B

#### NEW QUESTION 17

- (Exam Topic 2)

Your company has deployed a new API to App Engine Standard environment. During testing, the API is not behaving as expected. You want to monitor the application over time to diagnose the problem within the application code without redeploying the application.

Which tool should you use?

- A. Stackdriver Trace
- B. Stackdriver Monitoring
- C. Stackdriver Debug Snapshots
- D. Stackdriver Debug Logpoints

**Answer:** B

#### Explanation:

Reference: <https://rominirani.com/gcp-stackdriver-tutorial-debug-snapshots-traces-logging-and-logpoints-1ba49e4780e6>

#### NEW QUESTION 22

- (Exam Topic 2)

You want to create “fully baked” or “golden” Compute Engine images for your application. You need to bootstrap your application to connect to the appropriate database according to the environment the application is running on (test, staging, production). What should you do?

- A. Embed the appropriate database connection string in the image
- B. Create a different image for each environment.
- C. When creating the Compute Engine instance, add a tag with the name of the database to be connected. In your application, query the Compute Engine API to pull the tags for the current instance, and use the tag to construct the appropriate database connection string.
- D. When creating the Compute Engine instance, create a metadata item with a key of “DATABASE” and a value for the appropriate database connection string
- E. In your application, read the “DATABASE” environment variable, and use the value to connect to the appropriate database.
- F. When creating the Compute Engine instance, create a metadata item with a key of “DATABASE” and a value for the appropriate database connection string
- G. In your application, query the metadata server for the “DATABASE” value, and use the value to connect to the appropriate database.

**Answer:** C

#### NEW QUESTION 26

- (Exam Topic 2)

You are developing a marquee stateless web application that will run on Google Cloud. The rate of the incoming user traffic is expected to be unpredictable, with no traffic on some days and large spikes on other days. You need the application to automatically scale up and down, and you need to minimize the cost associated with running the application. What should you do?

- A. Build the application in Python with Firestore as the database
- B. Deploy the application to Cloud Run.
- C. Build the application in C# with Firestore as the database
- D. Deploy the application to App Engine flexible environment.
- E. Build the application in Python with CloudSQL as the database
- F. Deploy the application to App Engine standard environment.
- G. Build the application in Python with Firestore as the database
- H. Deploy the application to a Compute Engine managed instance group with autoscaling.

**Answer:** A

#### NEW QUESTION 29

- (Exam Topic 2)

You have a mixture of packaged and internally developed applications hosted on a Compute Engine instance that is running Linux. These applications write log records as text in local files. You want the logs to be written to Cloud Logging. What should you do?

- A. Pipe the content of the files to the Linux Syslog daemon.
- B. Install a Google version of fluentd on the Compute Engine instance.
- C. Install a Google version of collectd on the Compute Engine instance.
- D. Using cron, schedule a job to copy the log files to Cloud Storage once a day.

**Answer:** B

#### Explanation:

Reference: <https://cloud.google.com/logging/docs/agent/logging/configuration>

#### NEW QUESTION 31

- (Exam Topic 2)

You want to re-architect a monolithic application so that it follows a microservices model. You want to accomplish this efficiently while minimizing the impact of this change to the business.

Which approach should you take?

- A. Deploy the application to Compute Engine and turn on autoscaling.
- B. Replace the application's features with appropriate microservices in phases.
- C. Refactor the monolithic application with appropriate microservices in a single effort and deploy it.
- D. Build a new application with the appropriate microservices separate from the monolith and replace it when it is complete.

**Answer:** C

**Explanation:**

Reference: <https://cloud.google.com/solutions/migrating-a-monolithic-app-to-microservices-gke>

**NEW QUESTION 33**

- (Exam Topic 2)

You developed a JavaScript web application that needs to access Google Drive's API and obtain permission from users to store files in their Google Drives. You need to select an authorization approach for your application. What should you do?

- A. Create an API key.
- B. Create a SAML token.
- C. Create a service account.
- D. Create an OAuth Client ID.

**Answer:** D

**Explanation:**

Reference: <https://developers.google.com/drive/api/v3/about-auth>

**NEW QUESTION 36**

- (Exam Topic 2)

You are designing a resource-sharing policy for applications used by different teams in a Google Kubernetes Engine cluster. You need to ensure that all applications can access the resources needed to run. What should you do? (Choose two.)

- A. Specify the resource limits and requests in the object specifications.
- B. Create a namespace for each team, and attach resource quotas to each namespace.
- C. Create a LimitRange to specify the default compute resource requirements for each namespace.
- D. Create a Kubernetes service account (KSA) for each application, and assign each KSA to the namespace.
- E. Use the Anthos Policy Controller to enforce label annotations on all namespace
- F. Use taints and tolerations to allow resource sharing for namespaces.

**Answer:** BC

**Explanation:**

<https://kubernetes.io/docs/concepts/policy/resource-quotas/> <https://kubernetes.io/docs/concepts/policy/limit-range/>  
<https://cloud.google.com/blog/products/containers-kubernetes/kubernetes-best-practices-resource-requests-and-l>

**NEW QUESTION 37**

- (Exam Topic 2)

You are running an application on App Engine that you inherited. You want to find out whether the application is using insecure binaries or is vulnerable to XSS attacks. Which service should you use?

- A. Cloud Amor
- B. Stackdriver Debugger
- C. Cloud Security Scanner
- D. Stackdriver Error Reporting

**Answer:** C

**Explanation:**

Reference: <https://cloud.google.com/security-scanner>

**NEW QUESTION 38**

- (Exam Topic 2)

Your application requires service accounts to be authenticated to GCP products via credentials stored on its host Compute Engine virtual machine instances. You want to distribute these credentials to the host instances as securely as possible. What should you do?

- A. Use HTTP signed URLs to securely provide access to the required resources.
- B. Use the instance's service account Application Default Credentials to authenticate to the required resources.
- C. Generate a P12 file from the GCP Console after the instance is deployed, and copy the credentials to the host instance before starting the application.
- D. Commit the credential JSON file into your application's source repository, and have your CI/CD process package it with the software that is deployed to the instance.

**Answer:** B

**Explanation:**

Reference: <https://cloud.google.com/compute/docs/api/how-tos/authorization>

**NEW QUESTION 41**

- (Exam Topic 2)

You work for a web development team at a small startup. Your team is developing a Node.js application using Google Cloud services, including Cloud Storage and



Cloud Build. The team uses a Git repository for version control. Your manager calls you over the weekend and instructs you to make an emergency update to one of the company's websites, and you're the only developer available. You need to access Google Cloud to make the update, but you don't have your work laptop. You are not allowed to store source code locally on a non-corporate computer. How should you set up your developer environment?

- A. Use a text editor and the Git command line to send your source code updates as pull requests from a public computer.
- B. Use a text editor and the Git command line to send your source code updates as pull requests from a virtual machine running on a public computer.
- C. Use Cloud Shell and the built-in code editor for developmen
- D. Send your source code updates as pull requests.
- E. Use a Cloud Storage bucket to store the source code that you need to edi
- F. Mount the bucket to a public computer as a drive, and use a code editor to update the cod
- G. Turn on versioning for the bucket, and point it to the team's Git repository.

**Answer:** C

**Explanation:**

<https://cloud.google.com/shell/docs>

#### NEW QUESTION 42

- (Exam Topic 2)

You are designing a schema for a table that will be moved from MySQL to Cloud Bigtable. The MySQL table is as follows:

```
AccountActivity
(
  Account_id int,
  Event_timestamp datetime,
  Transaction_type string,
  Amount numeric(18, 4)
) primary key (Account_id, Event_timestamp)
```

How should you design a row key for Cloud Bigtable for this table?

- A. Set Account\_id as a key.
- B. Set Account\_id\_Event\_timestamp as a key.
- C. Set Event\_timestamp\_Account\_id as a key.
- D. Set Event\_timestamp as a key.

**Answer:** C

#### NEW QUESTION 47

- (Exam Topic 2)

Your company's product team has a new requirement based on customer demand to autoscale your stateless and distributed service running in a Google Kubernetes Engine (GKE) duster. You want to find a solution that minimizes changes because this feature will go live in two weeks. What should you do?

- A. Deploy a Vertical Pod Autoscaler, and scale based on the CPU load.
- B. Deploy a Vertical Pod Autoscaler, and scale based on a custom metric.
- C. Deploy a Horizontal Pod Autoscaler, and scale based on the CPU toad.
- D. Deploy a Horizontal Pod Autoscaler, and scale based on a custom metric.

**Answer:** C

**Explanation:**

<https://cloud.google.com/kubernetes-engine/docs/concepts/horizontalpodautoscaler>

The Horizontal Pod Autoscaler changes the shape of your Kubernetes workload by automatically increasing or decreasing the number of Pods in response to the workload's CPU or memory consumption, or in response to custom metrics reported from within Kubernetes or external metrics from sources outside of your cluster.

#### NEW QUESTION 52

- (Exam Topic 2)

Your company has deployed a new API to a Compute Engine instance. During testing, the API is not behaving as expected. You want to monitor the application over 12 hours to diagnose the problem within the application code without redeploying the application. Which tool should you use?

- A. Cloud Trace
- B. Cloud Monitoring
- C. Cloud Debugger logpoints
- D. Cloud Debugger snapshots

**Answer:** C

**Explanation:**

<https://cloud.google.com/debugger/docs/using/logpoints>

Logpoints allow you to inject logging into running services without restarting or interfering with the normal function of the service

#### NEW QUESTION 53

- (Exam Topic 2)

Your security team is auditing all deployed applications running in Google Kubernetes Engine. After completing the audit, your team discovers that some of the applications send traffic within the cluster in clear text. You need to ensure that all application traffic is encrypted as quickly as possible while minimizing changes to your applications and maintaining support from Google. What should you do?

- A. Use Network Policies to block traffic between applications.

- B. Install Istio, enable proxy injection on your application namespace, and then enable mTLS.
- C. Define Trusted Network ranges within the application, and configure the applications to allow traffic only from those networks.
- D. Use an automated process to request SSL Certificates for your applications from Let's Encrypt and add them to your applications.

**Answer:** D

#### NEW QUESTION 54

- (Exam Topic 2)

Your team is responsible for maintaining an application that aggregates news articles from many different sources. Your monitoring dashboard contains publicly accessible real-time reports and runs on a Compute Engine instance as a web application. External stakeholders and analysts need to access these reports via a secure channel without authentication. How should you configure this secure channel?

- A. Add a public IP address to the instance
- B. Use the service account key of the instance to encrypt the traffic.
- C. Use Cloud Scheduler to trigger Cloud Build every hour to create an export from the report
- D. Store the reports in a public Cloud Storage bucket.
- E. Add an HTTP(S) load balancer in front of the monitoring dashboard
- F. Configure Identity-Aware Proxy to secure the communication channel.
- G. Add an HTTP(S) load balancer in front of the monitoring dashboard
- H. Set up a Google-managed SSL certificate on the load balancer for traffic encryption.

**Answer:** D

#### Explanation:

<https://cloud.google.com/load-balancing/docs/ssl-certificates/google-managed-certs>

#### NEW QUESTION 57

- (Exam Topic 2)

You recently developed an application. You need to call the Cloud Storage API from a Compute Engine instance that doesn't have a public IP address. What should you do?

- A. Use Carrier Peering
- B. Use VPC Network Peering
- C. Use Shared VPC networks
- D. Use Private Google Access

**Answer:** D

#### Explanation:

<https://cloud.google.com/vpc/docs/private-google-access>

#### NEW QUESTION 58

- (Exam Topic 2)

You have an application that uses an HTTP Cloud Function to process user activity from both desktop browser and mobile application clients. This function will serve as the endpoint for all metric submissions using HTTP POST.

Due to legacy restrictions, the function must be mapped to a domain that is separate from the domain requested by users on web or mobile sessions. The domain for the Cloud Function is <https://fn.example.com>. Desktop and mobile clients use the domain <https://www.example.com>. You need to add a header to the function's HTTP response so that only those browser and mobile sessions can submit metrics to the Cloud Function. Which response header should you add?

- A. Access-Control-Allow-Origin: \*
- B. Access-Control-Allow-Origin: [https://\\*.example.com](https://*.example.com)
- C. Access-Control-Allow-Origin: <https://fn.example.com>
- D. Access-Control-Allow-origin: <https://www.example.com>

**Answer:** D

#### NEW QUESTION 62

- (Exam Topic 2)

Your web application is deployed to the corporate intranet. You need to migrate the web application to Google Cloud. The web application must be available only to company employees and accessible to employees as they travel. You need to ensure the security and accessibility of the web application while minimizing application changes. What should you do?

- A. Configure the application to check authentication credentials for each HTTP(S) request to the application.
- B. Configure Identity-Aware Proxy to allow employees to access the application through its public IP address.
- C. Configure a Compute Engine instance that requests users to log in to their corporate account
- D. Change the web application DNS to point to the proxy Compute Engine instance
- E. After authenticating, the Compute Engine instance forwards requests to and from the web application.
- F. Configure a Compute Engine instance that requests users to log in to their corporate account
- G. Change the web application DNS to point to the proxy Compute Engine instance
- H. After authenticating, the Compute Engine issues an HTTP redirect to a public IP address hosting the web application.

**Answer:** B

#### NEW QUESTION 64

- (Exam Topic 2)

You are deploying a microservices application to Google Kubernetes Engine (GKE). The application will receive daily updates. You expect to deploy a large number of distinct containers that will run on the Linux operating system (OS). You want to be alerted to any known OS vulnerabilities in the new containers. You want to follow Google-recommended best practices. What should you do?

- A. Use the gcloud CLI to call Container Analysis to scan new container image
- B. Review the vulnerability results before each deployment.
- C. Enable Container Analysis, and upload new container images to Artifact Registry
- D. Review the vulnerability results before each deployment.
- E. Enable Container Analysis, and upload new container images to Artifact Registry
- F. Review the critical vulnerability results before each deployment.
- G. Use the Container Analysis REST API to call Container Analysis to scan new container image
- H. Review the vulnerability results before each deployment.

**Answer: B**

**Explanation:**

<https://cloud.google.com/container-analysis/docs/automated-scanning-howto> <https://cloud.google.com/container-analysis/docs/os-overview> says: The Container Scanning API allows you to automate OS vulnerability detection, scanning each time you push an image to Container Registry or Artifact Registry. Enabling this API also triggers language package scans for Go and Java vulnerabilities (Preview).

**NEW QUESTION 67**

- (Exam Topic 2)

You migrated some of your applications to Google Cloud. You are using a legacy monitoring platform deployed on-premises for both on-premises and cloud-deployed applications. You discover that your notification system is responding slowly to time-critical problems in the cloud applications. What should you do?

- A. Replace your monitoring platform with Cloud Monitoring.
- B. Install the Cloud Monitoring agent on your Compute Engine instances.
- C. Migrate some traffic back to your old platfor
- D. Perform A/B testing on the two platforms concurrently.
- E. Use Cloud Logging and Cloud Monitoring to capture logs, monitor, and send alert
- F. Send them to your existing platform.

**Answer: D**

**NEW QUESTION 70**

- (Exam Topic 2)

You are deploying your application on a Compute Engine instance that communicates with Cloud SQL. You will use Cloud SQL Proxy to allow your application to communicate to the database using the service account associated with the application's instance. You want to follow the Google-recommended best practice of providing minimum access for the role assigned to the service account. What should you do?

- A. Assign the Project Editor role.
- B. Assign the Project Owner role.
- C. Assign the Cloud SQL Client role.
- D. Assign the Cloud SQL Editor role.

**Answer: C**

**Explanation:**

Reference: <https://cloud.google.com/sql/docs/mysql/sql-proxy>

**NEW QUESTION 74**

- (Exam Topic 2)

Your team is building an application for a financial institution. The application's frontend runs on Compute Engine, and the data resides in Cloud SQL and one Cloud Storage bucket. The application will collect data containing PII, which will be stored in the Cloud SQL database and the Cloud Storage bucket. You need to secure the PII data. What should you do?

- A. 1) Create the relevant firewall rules to allow only the frontend to communicate with the Cloud SQL database2) Using IAM, allow only the frontend service account to access the Cloud Storage bucket
- B. 1) Create the relevant firewall rules to allow only the frontend to communicate with the Cloud SQL database2) Enable private access to allow the frontend to access the Cloud Storage bucket privately
- C. 1) Configure a private IP address for Cloud SQL2) Use VPC-SC to create a service perimeter3) Add the Cloud SQL database and the Cloud Storage bucket to the same service perimeter
- D. 1) Configure a private IP address for Cloud SQL2) Use VPC-SC to create a service perimeter3) Add the Cloud SQL database and the Cloud Storage bucket to different service perimeters

**Answer: C**

**NEW QUESTION 78**

- (Exam Topic 2)

You have recently instrumented a new application with OpenTelemetry, and you want to check the latency of your application requests in Trace. You want to ensure that a specific request is always traced. What should you do?

- A. Wait 10 minutes, then verify that Trace captures those types of requests automatically.
- B. Write a custom script that sends this type of request repeatedly from your dev project.
- C. Use the Trace API to apply custom attributes to the trace.
- D. Add the X-Cloud-Trace-Context header to the request with the appropriate parameters.

**Answer: D**

**Explanation:**

<https://cloud.google.com/trace/docs/setup#force-trace>

Cloud Trace doesn't sample every request. To force a specific request to be traced, add an X-Cloud-Trace-Context header to the request.



**NEW QUESTION 79**

- (Exam Topic 2)

You are developing an ecommerce application that stores customer, order, and inventory data as relational tables inside Cloud Spanner. During a recent load test, you discover that Spanner performance is not scaling linearly as expected. Which of the following is the cause?

- A. The use of 64-bit numeric types for 32-bit numbers.
- B. The use of the STRING data type for arbitrary-precision values.
- C. The use of Version 1 UUIDs as primary keys that increase monotonically.
- D. The use of LIKE instead of STARTS\_WITH keyword for parameterized SQL queries.

**Answer:** C

**NEW QUESTION 84**

- (Exam Topic 2)

You are designing an application that will subscribe to and receive messages from a single Pub/Sub topic and insert corresponding rows into a database. Your application runs on Linux and leverages preemptible virtual machines to reduce costs. You need to create a shutdown script that will initiate a graceful shutdown. What should you do?

- A. Write a shutdown script that uses inter-process signals to notify the application process to disconnect from the database.
- B. Write a shutdown script that broadcasts a message to all signed-in users that the Compute Engine instance is going down and instructs them to save current work and sign out.
- C. Write a shutdown script that writes a file in a location that is being polled by the application once every five minute
- D. After the file is read, the application disconnects from the database.
- E. Write a shutdown script that publishes a message to the Pub/Sub topic announcing that a shutdown is in progres
- F. After the application reads the message, it disconnects from the database.

**Answer:** D

**NEW QUESTION 89**

- (Exam Topic 2)

You are using Cloud Build to create a new Docker image on each source code commit to a Cloud Source Repositories repository. Your application is built on every commit to the master branch. You want to release specific commits made to the master branch in an automated method. What should you do?

- A. Manually trigger the build for new releases.
- B. Create a build trigger on a Git tag patter
- C. Use a Git tag convention for new releases.
- D. Create a build trigger on a Git branch name patter
- E. Use a Git branch naming convention for new releases.
- F. Commit your source code to a second Cloud Source Repositories repository with a second Cloud Build trigge
- G. Use this repository for new releases only.

**Answer:** C

**Explanation:**

Reference: <https://docs.docker.com/docker-hub/builds/>

**NEW QUESTION 92**

- (Exam Topic 2)

Your application is deployed in a Google Kubernetes Engine (GKE) cluster. You want to expose this application publicly behind a Cloud Load Balancing HTTP(S) load balancer. What should you do?

- A. Configure a GKE Ingress resource.
- B. Configure a GKE Service resource.
- C. Configure a GKE Ingress resource with type: LoadBalancer.
- D. Configure a GKE Service resource with type: LoadBalancer.

**Answer:** A

**Explanation:**

Reference: <https://cloud.google.com/kubernetes-engine/docs/concepts/ingress>

**NEW QUESTION 93**

- (Exam Topic 2)

Your team develops services that run on Google Cloud. You want to process messages sent to a Pub/Sub topic, and then store them. Each message must be processed exactly once to avoid duplication of data and any data conflicts. You need to use the cheapest and most simple solution. What should you do?

- A. Process the messages with a Dataproc job, and write the output to storage.
- B. Process the messages with a Dataflow streaming pipeline using Apache Beam's PubSubIO package, and write the output to storage.
- C. Process the messages with a Cloud Function, and write the results to a BigQuery location where you can run a job to deduplicate the data.
- D. Retrieve the messages with a Dataflow streaming pipeline, store them in Cloud Bigtable, and use another Dataflow streaming pipeline to deduplicate messages.

**Answer:** B

**Explanation:**

<https://cloud.google.com/dataflow/docs/concepts/streaming-with-cloud-pubsub>

**NEW QUESTION 97**

- (Exam Topic 2)

You need to deploy a new European version of a website hosted on Google Kubernetes Engine. The current and new websites must be accessed via the same HTTP(S) load balancer's external IP address, but have different domain names. What should you do?

- A. Define a new Ingress resource with a host rule matching the new domain
- B. Modify the existing Ingress resource with a host rule matching the new domain
- C. Create a new Service of type LoadBalancer specifying the existing IP address as the loadBalancerIP
- D. Generate a new Ingress resource and specify the existing IP address as the kubernetes.io/ingress.global-static-ip-name annotation value

**Answer: B**

**Explanation:**

<https://kubernetes.io/docs/concepts/services-networking/ingress/#name-based-virtual-hosting> Name-based virtual hosts support routing HTTP traffic to multiple host names at the same IP address.

#### NEW QUESTION 101

- (Exam Topic 2)

You are developing a corporate tool on Compute Engine for the finance department, which needs to authenticate users and verify that they are in the finance department. All company employees use G Suite. What should you do?

- A. Enable Cloud Identity-Aware Proxy on the HTTP(s) load balancer and restrict access to a Google Group containing users in the finance department
- B. Verify the provided JSON Web Token within the application.
- C. Enable Cloud Identity-Aware Proxy on the HTTP(s) load balancer and restrict access to a Google Group containing users in the finance department
- D. Issue client-side certificates to everybody in the finance team and verify the certificates in the application.
- E. Configure Cloud Armor Security Policies to restrict access to only corporate IP address range
- F. Verify the provided JSON Web Token within the application.
- G. Configure Cloud Armor Security Policies to restrict access to only corporate IP address range
- H. Issue client side certificates to everybody in the finance team and verify the certificates in the application.

**Answer: A**

**Explanation:**

[https://cloud.google.com/iap/docs/signed-headers-howto#securing\\_iap\\_headers](https://cloud.google.com/iap/docs/signed-headers-howto#securing_iap_headers) (<https://cloud.google.com/endpoints/docs/openapi/authenticating-users-google-id>). <https://cloud.google.com/armor/docs/security-policy-overview#:~:text=Google%20Cloud%20Armor%20securit> "Google Cloud Armor security policies protect your application by providing Layer 7 filtering and by scrubbing incoming requests for common web attacks or other Layer 7 attributes to potentially block traffic before it reaches your load balanced backend services or backend buckets"

#### NEW QUESTION 103

- (Exam Topic 2)

Your application is logging to Stackdriver. You want to get the count of all requests on all /api/alpha/\* endpoints. What should you do?

- A. Add a Stackdriver counter metric for path:/api/alpha/.
- B. Add a Stackdriver counter metric for endpoint:/api/alpha/\*.
- C. Export the logs to Cloud Storage and count lines matching /api/alpha.
- D. Export the logs to Cloud Pub/Sub and count lines matching /api/alpha.

**Answer: C**

#### NEW QUESTION 106

- (Exam Topic 2)

You are in the final stage of migrating an on-premises data center to Google Cloud. You are quickly approaching your deadline, and discover that a web API is running on a server slated for decommissioning. You need to recommend a solution to modernize this API while migrating to Google Cloud. The modernized web API must meet the following requirements:

- Autoscales during high traffic periods at the end of each month
- Written in Python 3.x
- Developers must be able to rapidly deploy new versions in response to frequent code changes

You want to minimize cost, effort, and operational overhead of this migration. What should you do?

- A. Modernize and deploy the code on App Engine flexible environment.
- B. Modernize and deploy the code on App Engine standard environment.
- C. Deploy the modernized application to an n1-standard-1 Compute Engine instance.
- D. Ask the development team to re-write the application to run as a Docker container on Google Kubernetes Engine.

**Answer: B**

**Explanation:**

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

#### NEW QUESTION 110

- (Exam Topic 2)

Your company's development teams want to use Cloud Build in their projects to build and push Docker images to Container Registry. The operations team requires all Docker images to be published to a centralized, securely managed Docker registry that the operations team manages. What should you do?

- A. Use Container Registry to create a registry in each development team's project
- B. Configure the Cloud Build build to push the Docker image to the project's registry

- C. Grant the operations team access to each development team's registry.
- D. Create a separate project for the operations team that has Container Registry configure
- E. Assign appropriate permissions to the Cloud Build service account in each developer team's project to allow access to the operation team's registry.
- F. Create a separate project for the operations team that has Container Registry configure
- G. Create a Service Account for each development team and assign the appropriate permissions to allow it access to the operations team's registr
- H. Store the service account key file in the source code repository and use it to authenticate against the operations team's registry.
- I. Create a separate project for the operations team that has the open source Docker Registry deployed on a Compute Engine virtual machine instanc
- J. Create a username and password for each development tea
- K. Store the username and password in the source code repository and use it to authenticate against the operations team's Docker registry.

**Answer:** A

**Explanation:**

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

#### NEW QUESTION 113

- (Exam Topic 2)

You are a developer working on an internal application for payroll processing. You are building a component of the application that allows an employee to submit a timesheet, which then initiates several steps:

- An email is sent to the employee and manager, notifying them that the timesheet was submitted.
- A timesheet is sent to payroll processing for the vendor's API.
- A timesheet is sent to the data warehouse for headcount planning.

These steps are not dependent on each other and can be completed in any order. New steps are being considered and will be implemented by different development teams. Each development team will implement the error handling specific to their step. What should you do?

- A. Deploy a Cloud Function for each step that calls the corresponding downstream system to complete the required action.
- B. Create a Pub/Sub topic for each ste
- C. Create a subscription for each downstream development team to subscribe to their step's topic.
- D. Create a Pub/Sub topic for timesheet submission
- E. Create a subscription for each downstream development team to subscribe to the topic.
- F. Create a timesheet microservice deployed to Google Kubernetes Engin
- G. The microservice calls each downstream step and waits for a successful response before calling the next step.

**Answer:** C

#### NEW QUESTION 114

- (Exam Topic 2)

You are developing a web application that contains private images and videos stored in a Cloud Storage bucket. Your users are anonymous and do not have Google Accounts. You want to use your application-specific logic to control access to the images and videos. How should you configure access?

- A. Cache each web application user's IP address to create a named IP table using Google Cloud Armor. Create a Google Cloud Armor security policy that allows users to access the backend bucket.
- B. Grant the Storage Object Viewer IAM role to allUser
- C. Allow users to access the bucket after authenticating through your web application.
- D. Configure Identity-Aware Proxy (IAP) to authenticate users into the web applicatio
- E. Allow users to access the bucket after authenticating through IAP.
- F. Generate a signed URL that grants read access to the bucke
- G. Allow users to access the URL after authenticating through your web application.

**Answer:** D

**Explanation:**

<https://cloud.google.com/storage/docs/access-control/signed-urls#should-you-use>

In some scenarios, you might not want to require your users to have a Google account in order to access Cloud Storage, but you still want to control access using your application-specific logic. The typical way to address this use case is to provide a signed URL to a user, which gives the user read, write, or delete access to that resource for a limited time. You specify an expiration time when you create the signed URL. Anyone who knows the URL can access the resource until the expiration time for the URL is reached or the key used to sign the URL is rotated.

#### NEW QUESTION 117

- (Exam Topic 2)

Your company has a BigQuery dataset named "Master" that keeps information about employee travel and expenses. This information is organized by employee department. That means employees should only be able to view information for their department. You want to apply a security framework to enforce this requirement with the minimum number of steps.

What should you do?

- A. Create a separate dataset for each departmen
- B. Create a view with an appropriate WHERE clause to select records from a particular dataset for the specific departmen
- C. Authorize this view to access records from your Master dataset
- D. Give employees the permission to this department-specific dataset.
- E. Create a separate dataset for each departmen
- F. Create a data pipeline for each department to copy appropriate information from the Master dataset to the specific dataset for the departmen
- G. Give employeeesthe permission to this department-specific dataset.
- H. Create a dataset named Master datase
- I. Create a separate view for each department in the Master datase
- J. Give employees access to the specific view for their department.
- K. Create a dataset named Master datase
- L. Create a separate table for each department in the Master datase
- M. Give employees access to the specific table for their department.

**Answer:** B

#### NEW QUESTION 119

- (Exam Topic 2)

You recently migrated an on-premises monolithic application to a microservices application on Google Kubernetes Engine (GKE). The application has dependencies on backend services on-premises, including a CRM system and a MySQL database that contains personally identifiable information (PII). The backend services must remain on-premises to meet regulatory requirements.

You established a Cloud VPN connection between your on-premises data center and Google Cloud. You notice that some requests from your microservices application on GKE to the backend services are failing due to latency issues caused by fluctuating bandwidth, which is causing the application to crash. How should you address the latency issues?

- A. Use Memorystore to cache frequently accessed PII data from the on-premises MySQL database
- B. Use Istio to create a service mesh that includes the microservices on GKE and the on-premises services
- C. Increase the number of Cloud VPN tunnels for the connection between Google Cloud and the on-premises services
- D. Decrease the network layer packet size by decreasing the Maximum Transmission Unit (MTU) value from its default value on Cloud VPN

**Answer:** C

#### Explanation:

<https://cloud.google.com/network-connectivity/docs/vpn/concepts/choosing-networks-routing#route-alignment>

#### NEW QUESTION 124

- (Exam Topic 2)

You are developing a web application that will be accessible over both HTTP and HTTPS and will run on Compute Engine instances. On occasion, you will need to SSH from your remote laptop into one of the Compute Engine instances to conduct maintenance on the app. How should you configure the instances while following Google-recommended best practices?

- A. Set up a backend with Compute Engine web server instances with a private IP address behind a TCP proxy load balancer.
- B. Configure the firewall rules to allow all ingress traffic to connect to the Compute Engine web servers, with each server having a unique external IP address.
- C. Configure Cloud Identity-Aware Proxy API for SSH access
- D. Then configure the Compute Engine servers with private IP addresses behind an HTTP(s) load balancer for the application web traffic.
- E. Set up a backend with Compute Engine web server instances with a private IP address behind an HTTP(S) load balance
- F. Set up a bastion host with a public IP address and open firewall port
- G. Connect to the web instances using the bastion host.

**Answer:** C

#### Explanation:

Reference: [https://cloud.google.com/compute/docs/instances/connecting-advanced#cloud\\_iap](https://cloud.google.com/compute/docs/instances/connecting-advanced#cloud_iap) [https://cloud.google.com/solutions/connecting-securely#storing\\_host\\_keys\\_by\\_enabling\\_guest\\_attributes](https://cloud.google.com/solutions/connecting-securely#storing_host_keys_by_enabling_guest_attributes)

#### NEW QUESTION 128

- (Exam Topic 2)

You have an application deployed in production. When a new version is deployed, some issues don't arise until the application receives traffic from users in production. You want to reduce both the impact and the number of users affected.

Which deployment strategy should you use?

- A. Blue/green deployment
- B. Canary deployment
- C. Rolling deployment
- D. Recreate deployment

**Answer:** A

#### Explanation:

Reference: <https://thenewstack.io/deployment-strategies/>

#### NEW QUESTION 129

- (Exam Topic 2)

You need to copy directory local-scripts and all of its contents from your local workstation to a Compute Engine virtual machine instance.

Which command should you use?

- A. `gsutil cp --project "my-gcp-project" -r ~/local-scripts/ gcp-instance-name:~/server-scripts/ --zone "us-east1-b"`
- B. `gsutil cp --project "my-gcp-project" -R ~/local-scripts/ gcp-instance-name:~/server-scripts/ --zone "us-east1-b"`
- C. `gcloud compute scp --project "my-gcp-project" --recurse ~/local-scripts/ gcpinstance-name:~/server-scripts/ --zone "us-east1-b"`
- D. `gcloud compute mv --project "my-gcp-project" --recurse ~/local-scripts/ gcpinstance-name:~/server-scripts/ --zone "us-east1-b"`

**Answer:** C

#### Explanation:

Reference: <https://cloud.google.com/sdk/gcloud/reference/compute/copy-files>

#### NEW QUESTION 130

- (Exam Topic 2)

You are building a highly available and globally accessible application that will serve static content to users. You need to configure the storage and serving components. You want to minimize management overhead and latency while maximizing reliability for users. What should you do?



- A. 1) Create a managed instance group
- B. Replicate the static content across the virtual machines (VMs)2) Create an external HTTP(S) load balancer.3) Enable Cloud CDN, and send traffic to the managed instance group.
- C. 1) Create an unmanaged instance group
- D. Replicate the static content across the VMs.2) Create an external HTTP(S) load balancer3) Enable Cloud CDN, and send traffic to the unmanaged instance group.
- E. 1) Create a Standard storage class, regional Cloud Storage bucket
- F. Put the static content in the bucket2) Reserve an external IP address, and create an external HTTP(S) load balancer3) Enable Cloud CDN, and send traffic to your backend bucket
- G. 1) Create a Standard storage class, multi-regional Cloud Storage bucket
- H. Put the static content in the bucket.2) Reserve an external IP address, and create an external HTTP(S) load balancer.3) Enable Cloud CDN, and send traffic to your backend bucket.

**Answer: D**

#### NEW QUESTION 132

- (Exam Topic 2)

You are creating a Google Kubernetes Engine (GKE) cluster and run this command:

```
> gcloud container clusters create large-cluster --num-nodes 200
```

The command fails with the error:

```
insufficient regional quota to satisfy request: resource "CPUS": request requires '200.0' and is short '176.0'. project has a quota of '24.0' with '24.0' available
```

You want to resolve the issue. What should you do?

- A. Request additional GKE quota in the GCP Console.
- B. Request additional Compute Engine quota in the GCP Console.
- C. Open a support case to request additional GKE quota.
- D. Decouple services in the cluster, and rewrite new clusters to function with fewer cores.

**Answer: A**

#### NEW QUESTION 134

- (Exam Topic 2)

You have an HTTP Cloud Function that is called via POST. Each submission's request body has a flat, unnested JSON structure containing numeric and text data. After the Cloud Function completes, the collected data should be immediately available for ongoing and complex analytics by many users in parallel. How should you persist the submissions?

- A. Directly persist each POST request's JSON data into Datastore.
- B. Transform the POST request's JSON data, and stream it into BigQuery.
- C. Transform the POST request's JSON data, and store it in a regional Cloud SQL cluster.
- D. Persist each POST request's JSON data as an individual file within Cloud Storage, with the file name containing the request identifier.

**Answer: D**

#### NEW QUESTION 138

- (Exam Topic 2)

Your code is running on Cloud Functions in project A. It is supposed to write an object in a Cloud Storage bucket owned by project B. However, the write call is failing with the error "403 Forbidden".

What should you do to correct the problem?

- A. Grant your user account the roles/storage.objectCreator role for the Cloud Storage bucket.
- B. Grant your user account the roles/iam.serviceAccountUser role for the service-PROJECTA@gcf-adminrobot.iam.gserviceaccount.com service account.
- C. Grant the service-PROJECTA@gcf-admin-robot.iam.gserviceaccount.com service account the roles/ storage.objectCreator role for the Cloud Storage bucket.
- D. Enable the Cloud Storage API in project B.

**Answer: B**

#### NEW QUESTION 141

- (Exam Topic 2)

You recently joined a new team that has a Cloud Spanner database instance running in production. Your manager has asked you to optimize the Spanner instance to reduce cost while maintaining high reliability and availability of the database. What should you do?

- A. Use Cloud Logging to check for error logs, and reduce Spanner processing units by small increments until you find the minimum capacity required.
- B. Use Cloud Trace to monitor the requests per sec of incoming requests to Spanner, and reduce Spanner processing units by small increments until you find the minimum capacity required.
- C. Use Cloud Monitoring to monitor the CPU utilization, and reduce Spanner processing units by small increments until you find the minimum capacity required.
- D. Use Snapshot Debugger to check for application errors, and reduce Spanner processing units by small increments until you find the minimum capacity required.

**Answer: C**

#### Explanation:

[https://cloud.google.com/spanner/docs/compute-capacity#increasing\\_and\\_decreasing\\_compute\\_capacity](https://cloud.google.com/spanner/docs/compute-capacity#increasing_and_decreasing_compute_capacity)



**NEW QUESTION 142**

- (Exam Topic 2)

You are designing a schema for a Cloud Spanner customer database. You want to store a phone number array field in a customer table. You also want to allow users to search customers by phone number. How should you design this schema?

- A. Create a table named Customer
- B. Add an Array field in a table that will hold phone numbers for the customer.
- C. Create a table named Customer
- D. Create a table named Phone
- E. Add a CustomerId field in the Phones table to find the CustomerId from a phone number.
- F. Create a table named Customer
- G. Add an Array field in a table that will hold phone numbers for the custome
- H. Create a secondary index on the Array field.
- I. Create a table named Customers as a parent tabl
- J. Create a table named Phones, and interleave this table into the Customer tabl
- K. Create an index on the phone number field in the Phones table.

**Answer:** C

**NEW QUESTION 146**

- (Exam Topic 2)

You are deploying your application to a Compute Engine virtual machine instance with the Stackdriver Monitoring Agent installed. Your application is a unix process on the instance. You want to be alerted if the unix process has not run for at least 5 minutes. You are not able to change the application to generate metrics or logs. Which alert condition should you configure?

- A. Uptime check
- B. Process health
- C. Metric absence
- D. Metric threshold

**Answer:** B

**Explanation:**

Reference: <https://cloud.google.com/monitoring/alerts/concepts-indepth>

**NEW QUESTION 147**

- (Exam Topic 2)

The development teams in your company want to manage resources from their local environments. You have been asked to enable developer access to each team's Google Cloud projects. You want to maximize efficiency while following Google-recommended best practices. What should you do?

- A. Add the users to their projects, assign the relevant roles to the users, and then provide the users with each relevant Project ID.
- B. Add the users to their projects, assign the relevant roles to the users, and then provide the users with each relevant Project Number.
- C. Create groups, add the users to their groups, assign the relevant roles to the groups, and then provide the users with each relevant Project ID.
- D. Create groups, add the users to their groups, assign the relevant roles to the groups, and then provide the users with each relevant Project Number.

**Answer:** C

**NEW QUESTION 150**

- (Exam Topic 2)

Your application is deployed on hundreds of Compute Engine instances in a managed instance group (MIG) in multiple zones. You need to deploy a new instance template to fix a critical vulnerability immediately but must avoid impact to your service. What setting should be made to the MIG after updating the instance template?

- A. Set the Max Surge to 100%.
- B. Set the Update mode to Opportunistic.
- C. Set the Maximum Unavailable to 100%.
- D. Set the Minimum Wait time to 0 seconds.

**Answer:** B

**Explanation:**

<https://cloud.google.com/compute/docs/instance-groups/rolling-out-updates-to-managed-instance-groups#type> Alternatively, if an automated update is potentially too disruptive, you can choose to perform an opportunistic update. The MIG applies an opportunistic update only when you manually initiate the update on selected instances or when new instances are created. New instances can be created when you or another service, such as an autoscaler, resizes the MIG. Compute Engine does not actively initiate requests to apply opportunistic updates on existing instances.

**NEW QUESTION 155**

- (Exam Topic 2)

You are developing an application using different microservices that should remain internal to the cluster. You want to be able to configure each microservice with a specific number of replicas. You also want to be able to address a specific microservice from any other microservice in a uniform way, regardless of the number of replicas the microservice scales to. You need to implement this solution on Google Kubernetes Engine. What should you do?

- A. Deploy each microservice as a Deploymen
- B. Expose the Deployment in the cluster using a Service, and use the Service DNS name to address it from other microservices within the cluster.
- C. Deploy each microservice as a Deploymen
- D. Expose the Deployment in the cluster using an Ingress, and use the Ingress IP address to address the Deployment from other microservices within the cluster.
- E. Deploy each microservice as a Po
- F. Expose the Pod in the cluster using a Service, and use the Service DNS name to address the microservice from other microservices within the cluster.

- G. Deploy each microservice as a Po  
H. Expose the Pod in the cluster using an Ingress, and use the Ingress IP address name to address the Pod from other microservices within the cluster.

**Answer:** A

#### NEW QUESTION 159

- (Exam Topic 2)

Your application is built as a custom machine image. You have multiple unique deployments of the machine image. Each deployment is a separate managed instance group with its own template. Each deployment requires a unique set of configuration values. You want to provide these unique values to each deployment but use the same custom machine image in all deployments. You want to use out-of-the-box features of Compute Engine. What should you do?

- A. Place the unique configuration values in the persistent disk.  
B. Place the unique configuration values in a Cloud Bigtable table.  
C. Place the unique configuration values in the instance template startup script.  
D. Place the unique configuration values in the instance template instance metadata.

**Answer:** A

#### Explanation:

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

#### NEW QUESTION 162

- (Exam Topic 2)

You have an application running in App Engine. Your application is instrumented with Stackdriver Trace. The /product-details request reports details about four known unique products at /sku-details as shown below. You want to reduce the time it takes for the request to complete. What should you do?

#### Timeline



- A. Increase the size of the instance class.  
B. Change the Persistent Disk type to SSD.  
C. Change /product-details to perform the requests in parallel.  
D. Store the /sku-details information in a database, and replace the webservice call with a database query.

**Answer:** C

#### NEW QUESTION 165

- (Exam Topic 2)

You are a SaaS provider deploying dedicated blogging software to customers in your Google Kubernetes Engine (GKE) cluster. You want to configure a secure multi-tenant platform to ensure that each customer has access to only their own blog and can't affect the workloads of other customers. What should you do?

- A. Enable Application-layer Secrets on the GKE cluster to protect the cluster.  
B. Deploy a namespace per tenant and use Network Policies in each blog deployment.  
C. Use GKE Audit Logging to identify malicious containers and delete them on discovery.  
D. Build a custom image of the blogging software and use Binary Authorization to prevent untrusted image deployments.

**Answer:** B

#### Explanation:

Reference: <https://cloud.google.com/kubernetes-engine/docs/concepts/multitenancy-overview>

#### NEW QUESTION 166

- (Exam Topic 2)

You are deploying a microservices application to Google Kubernetes Engine (GKE) that will broadcast livestreams. You expect unpredictable traffic patterns and large variations in the number of concurrent users. Your application must meet the following requirements:

- Scales automatically during popular events and maintains high availability
- Is resilient in the event of hardware failures

How should you configure the deployment parameters? (Choose two.)

- A. Distribute your workload evenly using a multi-zonal node pool.  
B. Distribute your workload evenly using multiple zonal node pools.  
C. Use cluster autoscaler to resize the number of nodes in the node pool, and use a Horizontal Pod Autoscaler to scale the workload.  
D. Create a managed instance group for Compute Engine with the cluster node  
E. Configure autoscaling rules for the managed instance group.  
F. Create alerting policies in Cloud Monitoring based on GKE CPU and memory utilization  
G. Ask an on-duty engineer to scale the workload by executing a script when CPU and memory usage exceed predefined thresholds.

**Answer: AC**

## NEW QUESTION 170

- (Exam Topic 2)

You are building an API that will be used by Android and iOS apps The API must:

- Support HTTPs
  - Minimize bandwidth cost
  - Integrate easily with mobile apps
- Which API architecture should you use?

- A. RESTful APIs
- B. MQTT for APIs
- C. gRPC-based APIs
- D. SOAP-based APIs

**Answer: A**

**Explanation:**

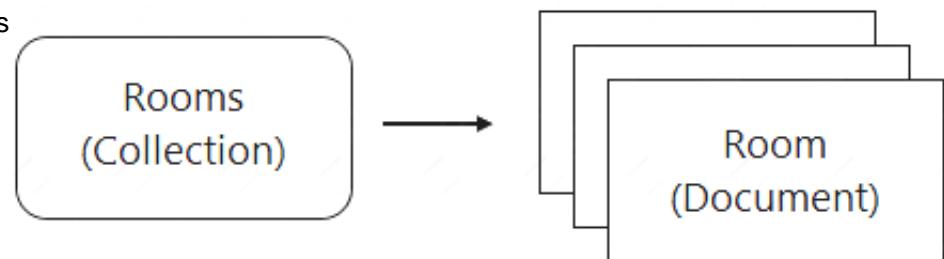
Reference: <https://www.devteam.space/blog/how-to-build-restful-api-for-your-mobile-app/>

**NEW QUESTION 173**

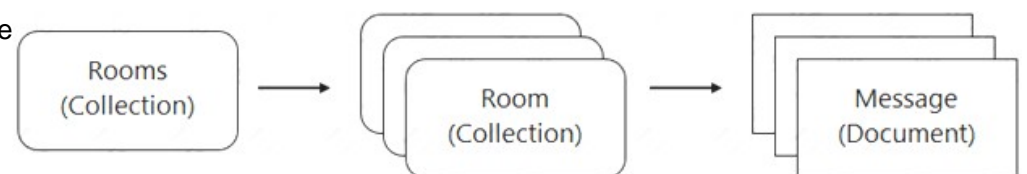
- (Exam Topic 2)

You are designing a chat room application that will host multiple rooms and retain the message history for each room. You have selected Firestore as your database. How should you represent the data in Firestore?

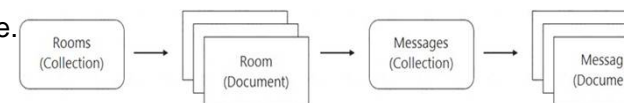
- A. Create a collection for the room
- B. For each room, create a document that lists the contents of the messages



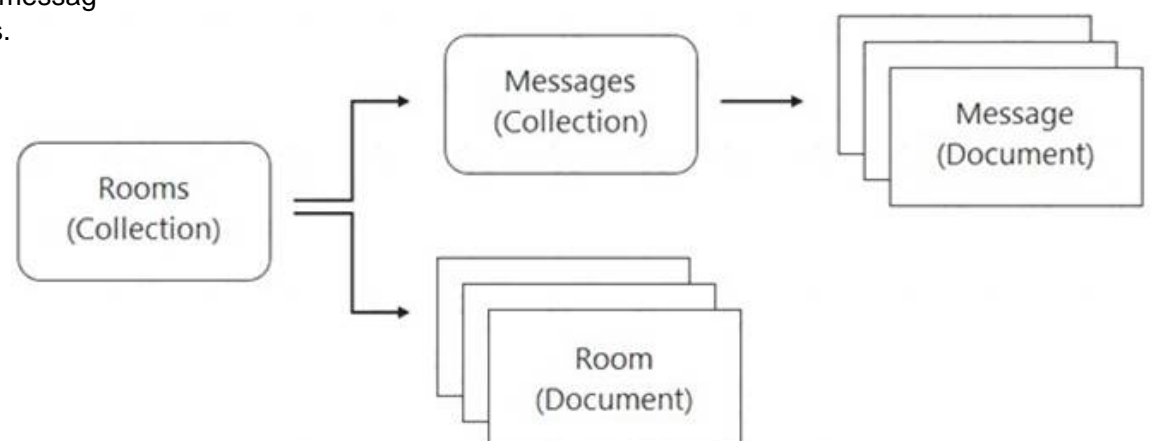
- C. Create a collection for the room
- D. For each room, create a collection that contains a document for each message



- E. Create a collection for the room
- F. For each room, create a document that contains a collection for documents, each of which contains a message.



- G. Create a collection for the rooms, and create a document for each room.  
H. Create a separate collection for messages, with one document per message.  
I. Each room's document contains a list of references to the messages.



**Answer: C**

**Explanation:**

[https://firebase.google.com/docs/firestore/data-model#hierarchical\\_data](https://firebase.google.com/docs/firestore/data-model#hierarchical_data)

**NEW QUESTION 177**

- (Exam Topic 2)

Your company stores their source code in a Cloud Source Repositories repository. Your company wants to build and test their code on each source code commit to the repository and requires a solution that is managed and has minimal operations overhead.

Which method should they use?

- A. Use Cloud Build with a trigger configured for each source code commit.
- B. Use Jenkins deployed via the Google Cloud Platform Marketplace, configured to watch for source code commits.
- C. Use a Compute Engine virtual machine instance with an open source continuous integration tool, configured to watch for source code commits.
- D. Use a source code commit trigger to push a message to a Cloud Pub/Sub topic that triggers an App Engine service to build the source code.

**Answer: A**

**Explanation:**

**Explanation:**

<https://cloud.google.com/build/docs/automating-builds/create-manage-triggers#:~:text=A%20Cloud%20Build%>

**NEW QUESTION 179**

- (Exam Topic 2)

Your team is developing unit tests for Cloud Function code. The code is stored in a Cloud Source Repositories repository. You are responsible for implementing the tests. Only a specific service account has the necessary permissions to deploy the code to Cloud Functions. You want to ensure that the code cannot be deployed without first passing the tests. How should you configure the unit testing process?

- A. Configure Cloud Build to deploy the Cloud Function
- B. If the code passes the tests, a deployment approval is sent to you.
- C. Configure Cloud Build to deploy the Cloud Function, using the specific service account as the build agent
- D. Run the unit tests after successful deployment.
- E. Configure Cloud Build to run the unit test
- F. If the code passes the tests, the developer deploys the Cloud Function.
- G. Configure Cloud Build to run the unit tests, using the specific service account as the build agent
- H. If the code passes the tests, Cloud Build deploys the Cloud Function.

**Answer:** D

**NEW QUESTION 184**

- (Exam Topic 2)

You are creating and running containers across different projects in Google Cloud. The application you are developing needs to access Google Cloud services from within Google Kubernetes Engine (GKE).

What should you do?

- A. Assign a Google service account to the GKE nodes.
- B. Use a Google service account to run the Pod with Workload Identity.
- C. Store the Google service account credentials as a Kubernetes Secret.
- D. Use a Google service account with GKE role-based access control (RBAC).

**Answer:** B

**Explanation:**

<https://cloud.google.com/kubernetes-engine/docs/concepts/workload-identity>

**NEW QUESTION 185**

- (Exam Topic 2)

Your analytics system executes queries against a BigQuery dataset. The SQL query is executed in batch and passes the contents of a SQL file to the BigQuery CLI. Then it redirects the BigQuery CLI output to another process. However, you are getting a permission error from the BigQuery CLI when the queries are executed. You want to resolve the issue. What should you do?

- A. Grant the service account BigQuery Data Viewer and BigQuery Job User roles.
- B. Grant the service account BigQuery Data Editor and BigQuery Data Viewer roles.
- C. Create a view in BigQuery from the SQL query and SELECT\* from the view in the CLI.
- D. Create a new dataset in BigQuery, and copy the source table to the new dataset. Query the new dataset and table from the CLI.

**Answer:** B

**NEW QUESTION 186**

- (Exam Topic 2)

You want to upload files from an on-premises virtual machine to Google Cloud Storage as part of a data migration. These files will be consumed by Cloud DataProc Hadoop cluster in a GCP environment. Which command should you use?

- A. `gsutil cp [LOCAL_OBJECT] gs://[DESTINATION_BUCKET_NAME]/`
- B. `gcloud cp [LOCAL_OBJECT] gs://[DESTINATION_BUCKET_NAME]/`
- C. `hadoop fs cp [LOCAL_OBJECT] gs://[DESTINATION_BUCKET_NAME]/`
- D. `gcloud dataproc cp [LOCAL_OBJECT] gs://[DESTINATION_BUCKET_NAME]/`

**Answer:** A

**Explanation:**

The `gsutil cp` command allows you to copy data between your local file storage. boto files generated by running "gsutil config"

**NEW QUESTION 188**

- (Exam Topic 2)

Your API backend is running on multiple cloud providers. You want to generate reports for the network latency of your API. Which two steps should you take? (Choose two.)

- A. Use Zipkin collector to gather data.
- B. Use Fluentd agent to gather data.
- C. Use Stackdriver Trace to generate reports.
- D. Use Stackdriver Debugger to generate report.
- E. Use Stackdriver Profiler to generate report.

**Answer:** AC

**Explanation:**

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

"receive traces from Zipkin clients and forward those traces to Cloud Trace for analysis." [https://cloud.google.com/trace/docs/quickstart#analysis\\_reports\\_window](https://cloud.google.com/trace/docs/quickstart#analysis_reports_window)

#### NEW QUESTION 189

- (Exam Topic 2)

You are developing an application that will allow users to read and post comments on news articles. You want to configure your application to store and display user-submitted comments using Firestore. How should you design the schema to support an unknown number of comments and articles?

- A. Store each comment in a subcollection of the article.
- B. Add each comment to an array property on the article.
- C. Store each comment in a document, and add the comment's key to an array property on the article.
- D. Store each comment in a document, and add the comment's key to an array property on the user profile.

**Answer: D**

#### NEW QUESTION 194

- (Exam Topic 2)

Your development team has been asked to refactor an existing monolithic application into a set of composable microservices. Which design aspects should you implement for the new application? (Choose two.)

- A. Develop the microservice code in the same programming language used by the microservice caller.
- B. Create an API contract agreement between the microservice implementation and microservice caller.
- C. Require asynchronous communications between all microservice implementations and microservice callers.
- D. Ensure that sufficient instances of the microservice are running to accommodate the performance requirements.
- E. Implement a versioning scheme to permit future changes that could be incompatible with the current interface.

**Answer: BE**

#### NEW QUESTION 196

- (Exam Topic 2)

Your application performs well when tested locally, but it runs significantly slower when you deploy it to App Engine standard environment. You want to diagnose the problem. What should you do?

- A. File a ticket with Cloud Support indicating that the application performs faster locally.
- B. Use Stackdriver Debugger Snapshots to look at a point-in-time execution of the application.
- C. Use Stackdriver Trace to determine which functions within the application have higher latency.
- D. Add logging commands to the application and use Stackdriver Logging to check where the latency problem occurs.

**Answer: D**

#### NEW QUESTION 198

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