



Google

Exam Questions Professional-Cloud-Architect

Google Certified Professional - Cloud Architect (GCP)

NEW QUESTION 1

- (Exam 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

- (Exam 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.-1712523

<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 3

- (Exam Topic 5)

You have an application that will run on Compute Engine. You need to design an architecture that takes into account a disaster recovery plan that requires your application to fail over to another region in case of a regional outage. What should you do?

- A. Deploy the application on two Compute Engine instances in the same project but in a different region. Use the first instance to serve traffic, and use the HTTP load balancing service to fail over to the standby instance in case of a disaster.
- B. Deploy the application on a Compute Engine instance
- C. Use the instance to serve traffic, and use the HTTP load balancing service to fail over to an instance on your premises in case of a disaster.
- D. Deploy the application on two Compute Engine instance groups, each in the same project but in a different region
- E. Use the first instance group to serve traffic, and use the HTTP load balancing service to fail over to the standby instance group in case of a disaster.
- F. Deploy the application on two Compute Engine instance groups, each in separate project and a different region
- G. Use the first instance group to server traffic, and use the HTTP load balancing service to fail over to the standby instance in case of a disaster.

Answer: C

NEW QUESTION 4

- (Exam 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. 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 5

- (Exam Topic 5)

You are using Cloud CDN to deliver static HTTP(S) website content hosted on a Compute Engine instance group. You want to improve the cache hit ratio. What should you do?

- A. Customize the cache keys to omit the protocol from the key.
- B. Shorten the expiration time of the cached objects.
- C. Make sure the HTTP(S) header "Cache-Region" points to the closest region of your users.
- D. Replicate the static content in a Cloud Storage bucket
- E. Point CloudCDN toward a load balancer on that bucket.

Answer: A

Explanation:

Reference https://cloud.google.com/cdn/docs/bestpractices#using_custom_cache_keys_to_improve_cache_hit_ratio

NEW QUESTION 6

- (Exam Topic 5)

You are building a continuous deployment pipeline for a project stored in a Git source repository and want to ensure that code changes can be verified deploying to production. What should you do?

- A. Use Spinnaker to deploy builds to production using the red/black deployment strategy so that changes can easily be rolled back.
- B. Use Spinnaker to deploy builds to production and run tests on production deployments.
- C. Use Jenkins to build the staging branches and the master branch
- D. Build and deploy changes to production for 10% of users before doing a complete rollout.
- E. Use Jenkins to monitor tags in the repository
- F. Deploy staging tags to a staging environment for testing. After testing, tag the repository for production and deploy that to the production environment.

Answer: D

Explanation:

Reference: <https://github.com/GoogleCloudPlatform/continuous-deployment-on-kubernetes/blob/master/README.md>

NEW QUESTION 7

- (Exam Topic 5)

A lead engineer wrote a custom tool that deploys virtual machines in the legacy data center. He wants to migrate the custom tool to the new cloud environment. You want to advocate for the adoption of Google Cloud Deployment Manager. What are two business risks of migrating to Cloud Deployment Manager? Choose 2 answers

- A. Cloud Deployment Manager uses Python.
- B. Cloud Deployment Manager APIs could be deprecated in the future.
- C. Cloud Deployment Manager is unfamiliar to the company's engineers.
- D. Cloud Deployment Manager requires a Google APIs service account to run.
- E. Cloud Deployment Manager can be used to permanently delete cloud resources.
- F. Cloud Deployment Manager only supports automation of Google Cloud resources.

Answer: CF

Explanation:

<https://cloud.google.com/deployment-manager/docs/deployments/deleting-deployments>

NEW QUESTION 8

- (Exam Topic 5)

You have been asked to select the storage system for the click-data of your company's large portfolio of websites. This data is streamed in from a custom website analytics package at a typical rate of 6,000 clicks per minute, with bursts of up to 8,500 clicks per second. It must be stored for future analysis by your data science and user experience teams. Which storage infrastructure should you choose?

- A. Google Cloud SQL
- B. Google Cloud Bigtable
- C. Google Cloud Storage
- D. Google cloud Datastore

Answer: C

Explanation:

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

NEW QUESTION 9

- (Exam Topic 5)

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

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

Answer: A

Explanation:

https://cloud.google.com/kubernetes-engine/docs/how-to/updating-apps#updating_an_application

NEW QUESTION 10

- (Exam 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 10

- (Exam Topic 5)

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

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

Answer: C

Explanation:

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

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

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

NEW QUESTION 14

- (Exam Topic 5)

You are analyzing and defining business processes to support your startup's trial usage of GCP, and you don't yet know what consumer demand for your product will be. Your manager requires you to minimize GCP service costs and adhere to Google best practices. What should you do?

- A. Utilize free tier and sustained use discount
- B. Provision a staff position for service cost management.
- C. Utilize free tier and sustained use discount
- D. Provide training to the team about service cost management.
- E. Utilize free tier and committed use discount
- F. Provision a staff position for service cost management.
- G. Utilize free tier and committed use discount
- H. Provide training to the team about service cost management.

Answer: D

Explanation:

https://cloud.google.com/docs/enterprise/best-practices-for-enterprise-organizations#billing_and_management

NEW QUESTION 15

- (Exam Topic 5)

A production database virtual machine on Google Compute Engine has an ext4-formatted persistent disk for data files. The database is about to run out of storage space. How can you remediate the problem with the least amount of downtime?

- A. In the Cloud Platform Console, increase the size of the persistent disk and use the resize2fs command in Linux.
- B. Shut down the virtual machine, use the Cloud Platform Console to increase the persistent disk size, then restart the virtual machine.

- C. In the Cloud Platform Console, increase the size of the persistent disk and verify the new space is ready to use with the fdisk command in Linux.
- D. In the Cloud Platform Console, create a new persistent disk attached to the virtual machine, format and mount it, and configure the database service to move the files to the new disk.
- E. In the Cloud Platform Console, create a snapshot of the persistent disk, restore the snapshot to a new larger disk, unmount the old disk, mount the new disk, and restart the database service.

Answer: A

Explanation:

On Linux instances, connect to your instance and manually resize your partitions and file systems to use the additional disk space that you added. Extend the file system on the disk or the partition to use the added space. If you grew a partition on your disk, specify the partition. If your disk does not have a partition table, specify only the disk ID.

```
sudo resize2fs /dev/[DISK_ID][PARTITION_NUMBER]
```

where [DISK_ID] is the device name and [PARTITION_NUMBER] is the partition number for the device where you are resizing the file system.

References: <https://cloud.google.com/compute/docs/disks/add-persistent-disk>

NEW QUESTION 19

- (Exam 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 22

- (Exam Topic 5)

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

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

Answer: B

Explanation:

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

NEW QUESTION 23

- (Exam Topic 5)

You need to evaluate your team readiness for a new GCP project. You must perform the evaluation and create a skills gap plan incorporates the business goal of cost optimization. Your team has deployed two GCP projects successfully to date. What should you do?

- A. Allocate budget for team training
- B. Set a deadline for the new GCP project.
- C. Allocate budget for team training
- D. Create a roadmap for your team to achieve Google Cloud certification based on job role.
- E. Allocate budget to hire skilled external consultant
- F. Set a deadline for the new GCP project.
- G. Allocate budget to hire skilled external consultant
- H. Create a roadmap for your team to achieve Google Cloud certification based on job role.

Answer: B

Explanation:

https://services.google.com/fh/files/misc/cloud_center_of_excellence.pdf

NEW QUESTION 26

- (Exam 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 27

- (Exam 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 29

- (Exam Topic 5)

You are deploying an application on App Engine that needs to integrate with an on-premises database. For security purposes, your on-premises database must not be accessible through the public Internet. What should you do?

- A. Deploy your application on App Engine standard environment and use App Engine firewall rules to limit access to the open on-premises database.
- B. Deploy your application on App Engine standard environment and use Cloud VPN to limit access to the on-premises database.
- C. Deploy your application on App Engine flexible environment and use App Engine firewall rules to limit access to the on-premises database.
- D. Deploy your application on App Engine flexible environment and use Cloud VPN to limit access to the on-premises database.

Answer: D

Explanation:

<https://cloud.google.com/appengine/docs/flexible/python/using-third-party-databases>

NEW QUESTION 30

- (Exam Topic 5)

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

What should you do?

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

Answer: C

NEW QUESTION 32

- (Exam 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_i

NEW QUESTION 35

- (Exam 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 39

- (Exam Topic 5)

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

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

Answer: A

Explanation:

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

NEW QUESTION 42

- (Exam Topic 5)

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

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

Answer: D

Explanation:

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

NEW QUESTION 47

- (Exam 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 49

- (Exam 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 50

- (Exam 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 52

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Found in 1998

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NEW QUESTION 1

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

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- D. Focus on an API for the public.
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- 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.-1712523

<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>

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- B. Deploy the application on a Compute Engine instance
- C. Use the instance to serve traffic, and use the HTTP load balancing service to fail over to an instance on your premises in case of a disaster.
- D. Deploy the application on two Compute Engine instance groups, each in the same project but in a different region
- E. Use the first instance group to serve traffic, and use the HTTP load balancing service to fail over to the standby instance group in case of a disaster.
- F. Deploy the application on two Compute Engine instance groups, each in separate project and a different region
- G. Use the first instance group to server traffic, and use the HTTP load balancing service to fail over to the standby instance in case of a disaster.

Answer: C

NEW QUESTION 4

- (Exam 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. 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 5

- (Exam Topic 5)

You are using Cloud CDN to deliver static HTTP(S) website content hosted on a Compute Engine instance group. You want to improve the cache hit ratio. What should you do?

- A. Customize the cache keys to omit the protocol from the key.
- B. Shorten the expiration time of the cached objects.
- C. Make sure the HTTP(S) header "Cache-Region" points to the closest region of your users.
- D. Replicate the static content in a Cloud Storage bucket
- E. Point CloudCDN toward a load balancer on that bucket.

Answer: A

Explanation:

Reference https://cloud.google.com/cdn/docs/bestpractices#using_custom_cache_keys_to_improve_cache_hit_ratio

NEW QUESTION 6

- (Exam Topic 5)

You are building a continuous deployment pipeline for a project stored in a Git source repository and want to ensure that code changes can be verified deploying to production. What should you do?

- A. Use Spinnaker to deploy builds to production using the red/black deployment strategy so that changes can easily be rolled back.
- B. Use Spinnaker to deploy builds to production and run tests on production deployments.
- C. Use Jenkins to build the staging branches and the master branch
- D. Build and deploy changes to production for 10% of users before doing a complete rollout.
- E. Use Jenkins to monitor tags in the repository
- F. Deploy staging tags to a staging environment for testing. After testing, tag the repository for production and deploy that to the production environment.

Answer: D

Explanation:

Reference: <https://github.com/GoogleCloudPlatform/continuous-deployment-on-kubernetes/blob/master/README.md>

NEW QUESTION 7

- (Exam Topic 5)

A lead engineer wrote a custom tool that deploys virtual machines in the legacy data center. He wants to migrate the custom tool to the new cloud environment. You want to advocate for the adoption of Google Cloud Deployment Manager. What are two business risks of migrating to Cloud Deployment Manager? Choose 2 answers

- A. Cloud Deployment Manager uses Python.
- B. Cloud Deployment Manager APIs could be deprecated in the future.
- C. Cloud Deployment Manager is unfamiliar to the company's engineers.
- D. Cloud Deployment Manager requires a Google APIs service account to run.
- E. Cloud Deployment Manager can be used to permanently delete cloud resources.
- F. Cloud Deployment Manager only supports automation of Google Cloud resources.

Answer: CF

Explanation:

<https://cloud.google.com/deployment-manager/docs/deployments/deleting-deployments>

NEW QUESTION 8

- (Exam Topic 5)

You have been asked to select the storage system for the click-data of your company's large portfolio of websites. This data is streamed in from a custom website analytics package at a typical rate of 6,000 clicks per minute, with bursts of up to 8,500 clicks per second. It must be stored for future analysis by your data science and user experience teams. Which storage infrastructure should you choose?

- A. Google Cloud SQL
- B. Google Cloud Bigtable
- C. Google Cloud Storage
- D. Google cloud Datastore

Answer: C

Explanation:

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

NEW QUESTION 9

- (Exam Topic 5)

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

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

Answer: A

Explanation:

https://cloud.google.com/kubernetes-engine/docs/how-to/updating-apps#updating_an_application

NEW QUESTION 10

- (Exam 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 10

- (Exam Topic 5)

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

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

Answer: C

Explanation:

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

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

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

NEW QUESTION 14

- (Exam Topic 5)

You are analyzing and defining business processes to support your startup's trial usage of GCP, and you don't yet know what consumer demand for your product will be. Your manager requires you to minimize GCP service costs and adhere to Google best practices. What should you do?

- A. Utilize free tier and sustained use discount
- B. Provision a staff position for service cost management.
- C. Utilize free tier and sustained use discount
- D. Provide training to the team about service cost management.
- E. Utilize free tier and committed use discount
- F. Provision a staff position for service cost management.
- G. Utilize free tier and committed use discount
- H. Provide training to the team about service cost management.

Answer: D

Explanation:

https://cloud.google.com/docs/enterprise/best-practices-for-enterprise-organizations#billing_and_management

NEW QUESTION 15

- (Exam Topic 5)

A production database virtual machine on Google Compute Engine has an ext4-formatted persistent disk for data files. The database is about to run out of storage space. How can you remediate the problem with the least amount of downtime?

- A. In the Cloud Platform Console, increase the size of the persistent disk and use the resize2fs command in Linux.
- B. Shut down the virtual machine, use the Cloud Platform Console to increase the persistent disk size, then restart the virtual machine.

- C. In the Cloud Platform Console, increase the size of the persistent disk and verify the new space is ready to use with the fdisk command in Linux.
- D. In the Cloud Platform Console, create a new persistent disk attached to the virtual machine, format and mount it, and configure the database service to move the files to the new disk.
- E. In the Cloud Platform Console, create a snapshot of the persistent disk, restore the snapshot to a new larger disk, unmount the old disk, mount the new disk, and restart the database service.

Answer: A

Explanation:

On Linux instances, connect to your instance and manually resize your partitions and file systems to use the additional disk space that you added. Extend the file system on the disk or the partition to use the added space. If you grew a partition on your disk, specify the partition. If your disk does not have a partition table, specify only the disk ID.

```
sudo resize2fs /dev/[DISK_ID][PARTITION_NUMBER]
```

where [DISK_ID] is the device name and [PARTITION_NUMBER] is the partition number for the device where you are resizing the file system.

References: <https://cloud.google.com/compute/docs/disks/add-persistent-disk>

NEW QUESTION 19

- (Exam 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 22

- (Exam Topic 5)

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

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

Answer: B

Explanation:

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

NEW QUESTION 23

- (Exam Topic 5)

You need to evaluate your team readiness for a new GCP project. You must perform the evaluation and create a skills gap plan incorporates the business goal of cost optimization. Your team has deployed two GCP projects successfully to date. What should you do?

- A. Allocate budget for team training
- B. Set a deadline for the new GCP project.
- C. Allocate budget for team training
- D. Create a roadmap for your team to achieve Google Cloud certification based on job role.
- E. Allocate budget to hire skilled external consultant
- F. Set a deadline for the new GCP project.
- G. Allocate budget to hire skilled external consultant
- H. Create a roadmap for your team to achieve Google Cloud certification based on job role.

Answer: B

Explanation:

https://services.google.com/fh/files/misc/cloud_center_of_excellence.pdf

NEW QUESTION 26

- (Exam 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 27

- (Exam 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 29

- (Exam Topic 5)

You are deploying an application on App Engine that needs to integrate with an on-premises database. For security purposes, your on-premises database must not be accessible through the public Internet. What should you do?

- A. Deploy your application on App Engine standard environment and use App Engine firewall rules to limit access to the open on-premises database.
- B. Deploy your application on App Engine standard environment and use Cloud VPN to limit access to the on-premises database.
- C. Deploy your application on App Engine flexible environment and use App Engine firewall rules to limit access to the on-premises database.
- D. Deploy your application on App Engine flexible environment and use Cloud VPN to limit access to the on-premises database.

Answer: D

Explanation:

<https://cloud.google.com/appengine/docs/flexible/python/using-third-party-databases>

NEW QUESTION 30

- (Exam Topic 5)

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

What should you do?

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

Answer: C

NEW QUESTION 32

- (Exam 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_i

NEW QUESTION 35

- (Exam 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 39

- (Exam Topic 5)

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

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

Answer: A

Explanation:

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

NEW QUESTION 42

- (Exam Topic 5)

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

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

Answer: D

Explanation:

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

NEW QUESTION 47

- (Exam 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 49

- (Exam 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 50

- (Exam 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 52

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