

Google

Exam Questions Professional-Cloud-Architect

Google Certified Professional - Cloud Architect (GCP)



NEW QUESTION 1

- (Exam Topic 2)

For this question, refer to the TerramEarth case study.

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

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

Answer: D

Explanation:

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

NEW QUESTION 2

- (Exam Topic 2)

For this question refer to the TerramEarth case study.

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

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

Answer: B

Explanation:

Capacity planning, TCO calculations, opex/capex allocation From the case study, it can conclude that Management (CXO) all concern rapid provision of resources (infrastructure) for growing as well as cost management, such as Cost optimization in Infrastructure, trade up front capital expenditures (Capex) for ongoing operating expenditures (Opex), and Total cost of ownership (TCO)

NEW QUESTION 3

- (Exam Topic 4)

For this question, refer to the Dress4Win case study.

Dress4Win has configured a new uptime check with Google Stackdriver for several of their legacy services. The Stackdriver dashboard is not reporting the services as healthy. What should they do?

- A. Install the Stackdriver agent on all of the legacy web servers.
- B. In the Cloud Platform Console download the list of the uptime servers' IP addresses and create an inbound firewall rule
- C. Configure their load balancer to pass through the User-Agent HTTP header when the value matches GoogleStackdriverMonitoring-UptimeChecks (<https://cloud.google.com/monitoring>)
- D. Configure their legacy web servers to allow requests that contain user-Agent HTTP header when the value matches GoogleStackdriverMonitoring—UptimeChecks (<https://cloud.google.com/monitoring>)

Answer: B

NEW QUESTION 4

- (Exam Topic 4)

For this question, refer to the Dress4Win case study.

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

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

Answer: B

NEW QUESTION 5

- (Exam Topic 5)

As part of implementing their disaster recovery plan, your company is trying to replicate their production MySQL database from their private data center to their GCP project using a Google Cloud VPN connection. They are experiencing latency issues and a small amount of packet loss that is disrupting the replication.

What should they do?

- A. Configure their replication to use UDP.
- B. Configure a Google Cloud Dedicated Interconnect.

- C. Restore their database daily using Google Cloud SQL.
- D. Add additional VPN connections and load balance them.
- E. Send the replicated transaction to Google Cloud Pub/Sub.

Answer: B

NEW QUESTION 6

- (Exam Topic 5)

Your company has decided to build a backup replica of their on-premises user authentication PostgreSQL database on Google Cloud Platform. The database is 4 TB, and large updates are frequent. Replication requires private address space communication. Which networking approach should you use?

- A. Google Cloud Dedicated Interconnect
- B. Google Cloud VPN connected to the data center network
- C. A NAT and TLS translation gateway installed on-premises
- D. A Google Compute Engine instance with a VPN server installed connected to the data center network

Answer: A

Explanation:

<https://cloud.google.com/docs/enterprise/best-practices-for-enterprise-organizations>

Google Cloud Dedicated Interconnect provides direct physical connections and RFC 1918 communication between your on-premises network and Google's network. Dedicated Interconnect enables you to transfer large amounts of data between networks, which can be more cost effective than purchasing additional bandwidth over the public Internet or using VPN tunnels.

Benefits:

- Traffic between your on-premises network and your VPC network doesn't traverse the public Internet. Traffic traverses a dedicated connection with fewer hops, meaning there are less points of failure where traffic might get dropped or disrupted.
- Your VPC network's internal (RFC 1918) IP addresses are directly accessible from your on-premises network. You don't need to use a NAT device or VPN tunnel to reach internal IP addresses. Currently, you can only reach internal IP addresses over a dedicated connection. To reach Google external IP addresses, you must use a separate connection.
- You can scale your connection to Google based on your needs. Connection capacity is delivered over one or more 10 Gbps Ethernet connections, with a maximum of eight connections (80 Gbps total per interconnect).
- The cost of egress traffic from your VPC network to your on-premises network is reduced. A dedicated connection is generally the least expensive method if you have a high-volume of traffic to and from Google's network.

References: <https://cloud.google.com/interconnect/docs/details/dedicated>

NEW QUESTION 7

- (Exam Topic 5)

You deploy your custom Java application to Google App Engine. It fails to deploy and gives you the following stack trace.

```
java.lang.SecurityException: SHA1 digest error for
com/Altostrat/CloakedServlet.class
    at com.google.appengine.runtime.Request.process
-d36f818a24b8cf1d (Request.java)
    at
sun.security.util.ManifestEntryVerifier.verify
(ManifestEntryVerifier.java:210)
    at java.util.jar.JarVerifier.processEntry
(JarVerifier.java:218)
    at java.util.jar.JarVerifier.update
(JarVerifier.java:205)
    at
java.util.jar.JarVerifiersVerifierStream.read
(JarVerifier.java:428)
    at sun.misc.Resource.getBytes
(Resource.java:124)
    at java.net.URL.ClassLoader.defineClass
(URLClassLoader.java:273)
    at sun.reflect.GeneratedMethodAccessor5.invoke
(Unknown Source)
    at
sun.reflect.DelegatingMethodAccessorImpl.invoke
(DelegatingMethodAccessorImpl.java:43)
    at java.lang.reflect.Method.invoke
(Method.java:616)
    at java.lang.ClassLoader.loadClass
(ClassLoader.java:266)
```

What should you do?

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

Answer: B

NEW QUESTION 8

- (Exam Topic 5)

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

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

Answer: D

Explanation:

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

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

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

NEW QUESTION 9

- (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 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 10

- (Exam Topic 5)

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

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

Answer: A

NEW QUESTION 10

- (Exam Topic 5)

You are monitoring Google Kubernetes Engine (GKE) clusters in a Cloud Monitoring workspace. As a Site Reliability Engineer (SRE), you need to triage incidents quickly. What should you do?

- A. Navigate the predefined dashboards in the Cloud Monitoring workspace, and then add metrics and create alert policies.
- B. Navigate the predefined dashboards in the Cloud Monitoring workspace, create custom metrics, and install alerting software on a Compute Engine instance.
- C. Write a shell script that gathers metrics from GKE nodes, publish these metrics to a Pub/Sub topic, export the data to BigQuery, and make a Data Studio dashboard.
- D. Create a custom dashboard in the Cloud Monitoring workspace for each incident, and then add metrics and create alert policies.

Answer: A

Explanation:

<https://cloud.google.com/stackdriver/docs/solutions/gke/legacy-stackdriver/monitoring>

NEW QUESTION 11

- (Exam Topic 5)

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

Which of the following best reflects your recommendations for a cost-effective storage allocation?

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

Answer: D

Explanation:

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

NEW QUESTION 13

- (Exam Topic 5)

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

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

Answer: A

Explanation:

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

NEW QUESTION 17

- (Exam Topic 5)

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

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

Answer: B

Explanation:

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

NEW QUESTION 20

- (Exam Topic 5)

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

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

Answer: BC

Explanation:

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

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

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

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

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

References:

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

NEW QUESTION 22

- (Exam Topic 5)

You have an outage in your Compute Engine managed instance group: all instances keep restarting after 5 seconds. You have a health check configured, but autoscaling is disabled. Your colleague, who is a Linux expert, offered to look into the issue. You need to make sure that he can access the VMs. What should you do?

- A. Grant your colleague the IAM role of project Viewer
- B. Perform a rolling restart on the instance group
- C. Disable the health check for the instance group
- D. Add his SSH key to the project-wide SSH keys
- E. Disable autoscaling for the instance group
- F. Add his SSH key to the project-wide SSH Keys

Answer: C

Explanation:

<https://cloud.google.com/compute/docs/instance-groups/autohealing-instances-in-migs>

Health checks used for autohealing should be conservative so they don't preemptively delete and recreate your instances. When an autohealer health check is too aggressive, the autohealer might mistake busy instances for failed instances and unnecessarily restart them, reducing availability

NEW QUESTION 27

- (Exam Topic 5)

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

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

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

Answer: B

Explanation:

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

NEW QUESTION 28

- (Exam Topic 5)

Your company is using Google Cloud. You have two folders under the Organization: Finance and Shopping. The members of the development team are in a Google Group. The development team group has been assigned the Project Owner role on the Organization. You want to prevent the development team from creating resources in projects in the Finance folder. What should you do?

- A. Assign the development team group the Project Viewer role on the Finance folder, and assign the development team group the Project Owner role on the Shopping folder.
- B. Assign the development team group only the Project Viewer role on the Finance folder.

- C. Assign the development team group the Project Owner role on the Shopping folder, and remove the development team group Project Owner role from the Organization.
- D. Assign the development team group only the Project Owner role on the Shopping folder.

Answer: C

Explanation:

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

"Roles are always inherited, and there is no way to explicitly remove a permission for a lower-level resource that is granted at a higher level in the resource hierarchy. Given the above example, even if you were to remove the Project Editor role from Bob on the "Test GCP Project", he would still inherit that role from the "Dept Y" folder, so he would still have the permissions for that role on "Test GCP Project"."

Reference: <https://cloud.google.com/resource-manager/docs/creating-managing-folders>

NEW QUESTION 29

- (Exam Topic 5)

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

Which of the following is most accurate?

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

Answer: D

Explanation:

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

NEW QUESTION 30

- (Exam Topic 5)

Your company wants you to build a highly reliable web application with a few public APIs as the backend. You don't expect a lot of user traffic, but traffic could spike occasionally. You want to leverage Cloud Load Balancing, and the solution must be cost-effective for users. What should you do?

- A. Store static content such as HTML and images in Cloud CD
- B. Host the APIs on App Engine and store the user data in Cloud SQL.
- C. Store static content such as HTML and images in a Cloud Storage bucket
- D. Host the APIs on a zonal Google Kubernetes Engine cluster with worker nodes in multiple zones, and save the user data in Cloud Spanner.
- E. Store static content such as HTML and images in Cloud CD
- F. Use Cloud Run to host the APIs and save the user data in Cloud SQL.
- G. Store static content such as HTML and images in a Cloud Storage bucket
- H. Use Cloud Functions to host the APIs and save the user data in Firestore.

Answer: D

Explanation:

<https://cloud.google.com/load-balancing/docs/https/setting-up-https-serverless#gcloud:-cloud-functions> <https://cloud.google.com/blog/products/networking/better-load-balancing-for-app-engine-cloud-run-and-function>

NEW QUESTION 31

- (Exam Topic 5)

Your company places a high value on being responsive and meeting customer needs quickly. Their primary business objectives are release speed and agility. You want to reduce the chance of security errors being accidentally introduced. Which two actions can you take? Choose 2 answers

- A. Ensure every code check-in is peer reviewed by a security SME.
- B. Use source code security analyzers as part of the CI/CD pipeline.
- C. Ensure you have stubs to unit test all interfaces between components.
- D. Enable code signing and a trusted binary repository integrated with your CI/CD pipeline.
- E. Run a vulnerability security scanner as part of your continuous-integration /continuous-delivery (CI/CD) pipeline.

Answer: BE

Explanation:

<https://docs.microsoft.com/en-us/vsts/articles/security-validation-cicd-pipeline?view=vsts>

NEW QUESTION 35

- (Exam Topic 5)

Your company is planning to perform a lift and shift migration of their Linux RHEL 6.5+ virtual machines. The virtual machines are running in an on-premises VMware environment. You want to migrate them to Compute Engine following Google-recommended practices. What should you do?

- A. * 1. Define a migration plan based on the list of the applications and their dependencies.* 2. Migrate all virtual machines into Compute Engine individually with Migrate for Compute Engine.
- B. * 1. Perform an assessment of virtual machines running in the current VMware environment.* 2. Create images of all disk
- C. Import disks on Compute Engine.* 3. Create standard virtual machines where the boot disks are the ones you have imported.
- D. * 1. Perform an assessment of virtual machines running in the current VMware environment.* 2. Define a migration plan, prepare a Migrate for Compute Engine migration RunBook, and execute the migration.
- E. * 1. Perform an assessment of virtual machines running in the current VMware environment.* 2. Install a third-party agent on all selected virtual machine
- F. 3.Migrate all virtual machines into Compute Engine.

Answer: C

Explanation:

The framework illustrated in the preceding diagram has four phases:

- Assess. In this phase, you assess your source environment, assess the workloads that you want to migrate to Google Cloud, and assess which VMs support each workload.
- Plan. In this phase, you create the basic infrastructure for Migrate for Compute Engine, such as provisioning the resource hierarchy and setting up network access.
- Deploy. In this phase, you migrate the VMs from the source environment to Compute Engine.
- Optimize. In this phase, you begin to take advantage of the cloud technologies and capabilities.

Reference: <https://cloud.google.com/architecture/migrating-vms-migrate-for-compute-engine-getting-started>

NEW QUESTION 37

- (Exam Topic 5)

Your company pushes batches of sensitive transaction data from its application server VMs to Cloud Pub/Sub for processing and storage. What is the Google-recommended way for your application to authenticate to the required Google Cloud services?

- A. Ensure that VM service accounts are granted the appropriate Cloud Pub/Sub IAM roles.
- B. Ensure that VM service accounts do not have access to Cloud Pub/Sub, and use VM access scopes to grant the appropriate Cloud Pub/Sub IAM roles.
- C. Generate an OAuth2 access token for accessing Cloud Pub/Sub, encrypt it, and store it in Cloud Storage for access from each VM.
- D. Create a gateway to Cloud Pub/Sub using a Cloud Function, and grant the Cloud Function service account the appropriate Cloud Pub/Sub IAM roles.

Answer: A

NEW QUESTION 39

- (Exam Topic 5)

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

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

Answer: A

Explanation:

Create a Compute engine instance with CPU and Memory options similar to your application's current on-premises virtual machine. Install the cloud monitoring agent, and deploy the third party application. Run a load with normal traffic levels on third party application and follow the Rightsizing Recommendations in the Cloud Console

<https://cloud.google.com/migrate/compute-engine/docs/4.9/concepts/planning-a-migration/cloud-instance-rights>

NEW QUESTION 42

- (Exam Topic 5)

You have an application that makes HTTP requests to Cloud Storage. Occasionally the requests fail with HTTP status codes of 5xx and 429. How should you handle these types of errors?

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

Answer: A

Explanation:

Reference https://cloud.google.com/storage/docs/json_api/v1/status-codes

NEW QUESTION 45

- (Exam Topic 5)

Your company is developing a web-based application. You need to make sure that production deployments are linked to source code commits and are fully auditable. What should you do?

- A. Make sure a developer is tagging the code commit with the date and time of commit
- B. Make sure a developer is adding a comment to the commit that links to the deployment.
- C. Make the container tag match the source code commit hash.
- D. Make sure the developer is tagging the commits with :latest

Answer: C

Explanation:

From: <https://cloud.google.com/architecture/best-practices-for-building-containers> Under: Tagging using the Git commit hash (bottom of page almost)

"In this case, a common way of handling version numbers is to use the Git commit SHA-1 hash (or a short version of it) as the version number. By design, the Git commit hash is immutable and references a specific version of your software. You can use this commit hash as a version number for your software, but also as a tag for the Docker image built from this specific version of your software. Doing so makes Docker images traceable: because in this case the image tag is immutable, you instantly know which specific version of your software is running inside a given container."

NEW QUESTION 50

- (Exam Topic 5)

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

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

Answer: A

Explanation:

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

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

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

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

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

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

NEW QUESTION 52

- (Exam Topic 5)

Your operations team currently stores 10 TB of data in an object storage service from a third-party provider. They want to move this data to a Cloud Storage bucket as quickly as possible, following

Google-recommended practices. They want to minimize the cost of this data migration. When approach should they use?

- A. Use the gsutil mv command to move the data
- B. Use the Storage Transfer Service to move the data
- C. Download the data to a Transfer Appliance and ship it to Google
- D. Download the data to the on-premises data center and upload it to the Cloud Storage bucket

Answer: B

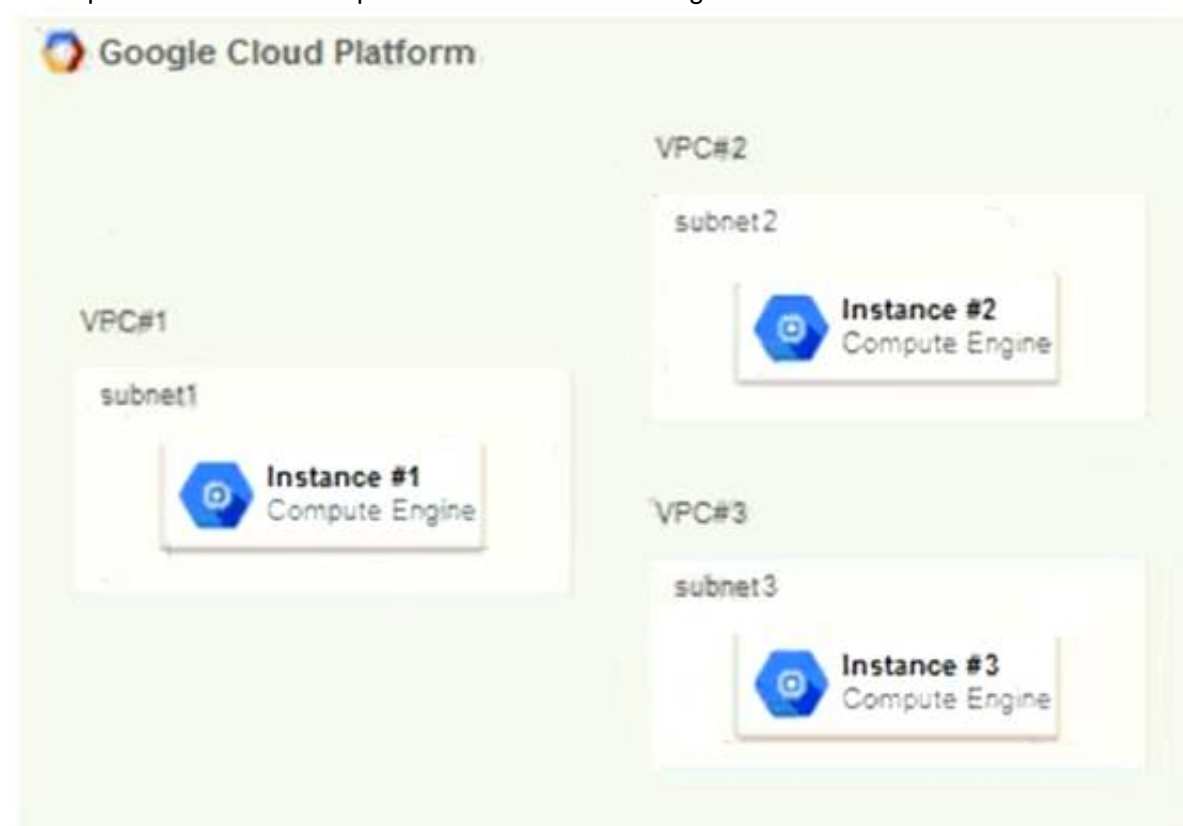
Explanation:

<https://cloud.google.com/architecture/migration-to-google-cloud-transferring-your-large-datasets#transfer-optio> <https://cloud.google.com/storage-transfer-service>

NEW QUESTION 57

- (Exam Topic 5)

Your company has a project in Google Cloud with three Virtual Private Clouds (VPCs). There is a Compute Engine instance on each VPC. Network subnets do not overlap and must remain separated. The network configuration is shown below.



Instance #1 is an exception and must communicate directly with both Instance #2 and Instance #3 via internal IPs. How should you accomplish this?

- A. Create a cloud router to advertise subnet #2 and subnet #3 to subnet #1.
- B. Add two additional NICs to Instance #1 with the following configuration:
 •NIC1VPC: VPC #2SUBNETWORK: subnet #2•NIC2VPC: VPC #3SUBNETWORK: subnet #3Update firewall rules to enable traffic between instances.
- C. Create two VPN tunnels via CloudVPN:
 •1 between VPC #1 and VPC #2. •1 between VPC #2 and VPC #3.Update firewall rules to enable traffic between the instances.

D. Peer all three VPCs:•Peer VPC #1 with VPC #2.•Peer VPC #2 with VPC #3.Update firewall rules to enable traffic between the instances.

Answer: B

Explanation:

As per GCP documentation: "By default, every instance in a VPC network has a single network interface. Use these instructions to create additional network interfaces. Each interface is attached to a different VPC network, giving that instance access to different VPC networks in Google Cloud. You cannot attach multiple network interfaces to the same VPC network." Refer to:

<https://cloud.google.com/vpc/docs/create-use-multiple-interfaces>

https://cloud.google.com/vpc/docs/create-use-multiple-interfaces#i_am_not_able_to_connect_to_secondary_inte

NEW QUESTION 59

- (Exam Topic 5)

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

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

Answer: D

Explanation:

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

NEW QUESTION 62

- (Exam Topic 5)

Your web application has several VM instances running within a VPC. You want to restrict communications between instances to only the paths and ports you authorize, but you don't want to rely on static IP addresses or subnets because the app can autoscale. How should you restrict communications?

- A. Use separate VPCs to restrict traffic
- B. Use firewall rules based on network tags attached to the compute instances
- C. Use Cloud DNS and only allow connections from authorized hostnames
- D. Use service accounts and configure the web application particular service accounts to have access

Answer: B

NEW QUESTION 65

- (Exam Topic 5)

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

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

Answer: A

NEW QUESTION 68

- (Exam Topic 5)

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

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

Answer: A

Explanation:

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

NEW QUESTION 71

- (Exam Topic 5)

Your web application uses Google Kubernetes Engine to manage several workloads. One workload requires a consistent set of hostnames even after pod scaling and relaunches.

Which feature of Kubernetes should you use to accomplish this?

- A. StatefulSets

- B. Role-based access control
- C. Container environment variables
- D. Persistent Volumes

Answer: A

Explanation:

<https://kubernetes.io/docs/tutorials/stateful-application/basic-stateful-set/>

NEW QUESTION 75

- (Exam Topic 5)

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

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

Answer: A

Explanation:

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

NEW QUESTION 79

- (Exam Topic 5)

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

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

Answer: AEF

Explanation:

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

NEW QUESTION 84

- (Exam Topic 5)

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

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

Answer: CD

Explanation:

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

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

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

NEW QUESTION 86

- (Exam Topic 5)

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

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

Answer: C

Explanation:

https://cloud.google.com/iap/docs/using-tcp-forwarding#tunneling_with_ssh

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

<https://cloud.google.com/blog/products/identity-security/cloud-iap-enables-context-aware-access-to-vms-via-ssh>

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

NEW QUESTION 87

- (Exam Topic 5)

You are running a cluster on Kubernetes Engine to serve a web application. Users are reporting that a specific part of the application is not responding anymore.

You notice that all pods of your deployment keep restarting after 2 seconds. The application writes logs to standard output. You want to inspect the logs to find the cause of the issue. Which approach can you take?

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

Answer: B

NEW QUESTION 92

- (Exam Topic 5)

Your company and one of its partners each have a Google Cloud project in separate organizations. Your company's project (prj-a) runs in Virtual Private Cloud (vpc-a). The partner's project (prj-b) runs in vpc-b. There are two instances running on vpc-a and one instance running on vpc-b. Subnets defined in both VPCs are not overlapping. You need to ensure that all instances communicate with each other via internal IPs minimizing latency and maximizing throughput. What should you do?

- A. Set up a network peering between vpc-a and vpc-b
- B. Set up a VPN between vpc-a and vpc-b using Cloud VPN
- C. Configure IAP TCP forwarding on the instance in vpc-b and then launch the following gcloud command from one of the instances in vpc-a: `gcloud compute instances tcp-forward --destination=10.10.10.10 --ports=22 --source=10.10.10.10`
- * 1. Create an additional instance in vpc-a* 2. Create an additional instance in vpc-b* 3. Install OpenVPN in newly created instances* 4. Configure a VPN tunnel between vpc-a and vpc-b with the help of OpenVPN

Answer: C

NEW QUESTION 96

- (Exam Topic 5)

One of your primary business objectives is being able to trust the data stored in your application. You want to log all changes to the application data. How can you design your logging system to verify authenticity of your logs?

- A. Write the log concurrently in the cloud and on premises.
- B. Use a SQL database and limit who can modify the log table.
- C. Digitally sign each timestamp and log entry and store the signature.
- D. Create a JSON dump of each log entry and store it in Google Cloud Storage.

Answer: C

Explanation:

<https://cloud.google.com/storage/docs/access-logs>

References: <https://cloud.google.com/logging/docs/reference/tools/gcloud-logging>

NEW QUESTION 99

- (Exam Topic 5)

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

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

Answer: B

Explanation:

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

NEW QUESTION 101

- (Exam Topic 5)

You are developing your microservices application on Google Kubernetes Engine. During testing, you want to validate the behavior of your application in case a

specific microservice should suddenly crash. What should you do?

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

Answer: B

Explanation:

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

NEW QUESTION 102

- (Exam Topic 7)

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

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

Answer: A

NEW QUESTION 103

- (Exam Topic 7)

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

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

Answer: A

NEW QUESTION 107

- (Exam Topic 7)

For this question, refer to the TerramEarth case study. A new architecture that writes all incoming data to BigQuery has been introduced. You notice that the data is dirty, and want to ensure data quality on an automated daily basis while managing cost. What should you do?

- A. Set up a streaming Cloud Dataflow job, receiving data by the ingestion process
- B. Clean the data in a Cloud Dataflow pipeline.
- C. Create a Cloud Function that reads data from BigQuery and cleans it
- D. Trigger it
- E. Trigger the Cloud Function from a Compute Engine instance.
- F. Create a SQL statement on the data in BigQuery, and save it as a view
- G. Run the view daily, and save the result to a new table.
- H. Use Cloud Dataprep and configure the BigQuery tables as the source
- I. Schedule a daily job to clean the data.

Answer: A

NEW QUESTION 110

- (Exam Topic 8)

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

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

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

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

Answer: C

Explanation:

https://cloud.google.com/solutions/gaming/cloud-game-infrastructure#dedicated_game_server

NEW QUESTION 112

- (Exam Topic 8)

You need to optimize batch file transfers into Cloud Storage for Mountkirk Games' new Google Cloud solution.

The batch files contain game statistics that need to be staged in Cloud Storage and be processed by an extract transform load (ETL) tool. What should you do?

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

Answer: B

Explanation:

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

NEW QUESTION 113

- (Exam Topic 9)

For this question, refer to the Helicopter Racing League (HRL) case study. HRL wants better prediction

accuracy from their ML prediction models. They want you to use Google's AI Platform so HRL can understand and interpret the predictions. What should you do?

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

Answer: A

Explanation:

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

NEW QUESTION 117

- (Exam Topic 9)

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

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

Answer: C

Explanation:

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

NEW QUESTION 119

- (Exam Topic 10)

For this question, refer to the EHR Healthcare case study. You need to define the technical architecture for securely deploying workloads to Google Cloud. You also need to ensure that only verified containers are deployed using Google Cloud services. What should you do? (Choose two.)

- A. Enable Binary Authorization on GKE, and sign containers as part of a CI/CD pipeline.
- B. Configure Jenkins to utilize Kritis to cryptographically sign a container as part of a CI/CD pipeline.
- C. Configure Container Registry to only allow trusted service accounts to create and deploy containers from the registry.
- D. Configure Container Registry to use vulnerability scanning to confirm that there are no vulnerabilities before deploying the workload.

Answer: A

Explanation:

Binary Authorization to ensure only verified containers are deployed To ensure deployment are secure and and consistent, automatically scan images for vulnerabilities with container analysis (https://cloud.google.com/docs/ci-cd/overview?hl=en&skip_cache=true)

NEW QUESTION 121

- (Exam Topic 10)

For this question, refer to the EHR Healthcare case study. You are responsible for designing the Google Cloud network architecture for Google Kubernetes

Engine. You want to follow Google best practices. Considering the EHR Healthcare business and technical requirements, what should you do to reduce the attack surface?

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

Answer: A

Explanation:

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

NEW QUESTION 122

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