

Exam Questions Professional-Cloud-Architect

Google Certified Professional - Cloud Architect (GCP)

<https://www.2passeasy.com/dumps/Professional-Cloud-Architect/>



NEW QUESTION 1

- (Exam Topic 1)

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

Mountkirk Games wants you to design their new testing strategy. How should the test coverage differ from their existing backends on the other platforms?

- A. Tests should scale well beyond the prior approaches.
- B. Unit tests are no longer required, only end-to-end tests.
- C. Tests should be applied after the release is in the production environment.
- D. Tests should include directly testing the Google Cloud Platform (GCP) infrastructure.

Answer: A

Explanation:

From Scenario:

A few of their games were more popular than expected, and they had problems scaling their application servers, MySQL databases, and analytics tools.

Requirements for Game Analytics Platform include: Dynamically scale up or down based on game activity

NEW QUESTION 2

- (Exam Topic 2)

For this question, refer to the TerramEarth case study

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

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

Answer: A

Explanation:

<https://cloud.google.com/appengine/docs/flexible/go/authorizing-apps> https://cloud.google.com/docs/enterprise/best-practices-for-enterprise-organizations#delegate_application_autho Delegate application authorization with OAuth2

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

References:

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

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

NEW QUESTION 3

- (Exam Topic 2)

Your agricultural division is experimenting with fully autonomous vehicles.

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

Choose 2 answers:

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

Answer: AC

NEW QUESTION 4

- (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 5

- (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 serve traffic, and use the HTTP load balancing service to fail over to the standby instance in case of a disaster.

Answer: C

NEW QUESTION 6

- (Exam Topic 5)

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

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

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

Answer: D

Explanation:

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

NEW QUESTION 7

- (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 8

- (Exam Topic 5)

You are using Cloud Shell and need to install a custom utility for use in a few weeks. Where can you store the file so it is in the default execution path and persists across sessions?

- A. ~/bin
- B. Cloud Storage
- C. /google/scripts
- D. /usr/local/bin

Answer: D

Explanation:

<https://medium.com/google-cloud/no-localhost-no-problem-using-google-cloud-shell-as-my-full-time-developer>

NEW QUESTION 9

- (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 10

- (Exam Topic 5)

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

application must

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

Which combination of technologies will meet all of his requirements?

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

Answer: A

Explanation:

Helm for managing Kubernetes

Kubernetes can base on the URL to route traffic to different location (path) <https://cloud.google.com/kubernetes-engine/docs/tutorials/http-balancer> eg. apiVersion: networking.k8s.io/v1beta1

kind: Ingress metadata:

name: fanout-ingress spec:

rules:

- http: paths:

- path: /* backend: serviceName: web servicePort: 8080

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

NEW QUESTION 10

- (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 14

- (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 16

- (Exam Topic 5)

You are developing a globally scaled frontend for a legacy streaming backend data API. This API expects events in strict chronological order with no repeat data for proper processing.

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

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

Answer: B

Explanation:

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

NEW QUESTION 18

- (Exam Topic 5)

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

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

Answer: B

Explanation:

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

NEW QUESTION 21

- (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 balance
- E. Configure a firewall rule with the name of the load balancer as the source and the instance tag as the destination.

Answer: C

Explanation:

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

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

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

NEW QUESTION 23

- (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 27

- (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 28

- (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 trainin
- B. Set a deadline for the new GCP project.
- C. Allocate budget for team trainin
- 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 31

- (Exam Topic 5)

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

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

Answer: B

Explanation:

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

NEW QUESTION 36

- (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 38

- (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 41

- (Exam Topic 5)

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

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

Answer: C

NEW QUESTION 45

- (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 data
- 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 data
- D. Lifecycle-managed Cloud Storage for log archives, thumbnails, and VM boot/data volumes.
- E. Memcache backed by Cloud SQL for customer session state data
- 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 data
- I. Assorted local SSD-backed 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 50

- (Exam Topic 5)

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

- A. Search for Create VM entry in the Stackdriver alerting console.
- B. Navigate to the Activity page in the Home section
- C. Set category to Data Access and search for Create VM entry.
- D. In the logging section of the console, specify GCE Network as the logging section
- E. Search for the Create Instance entry.
- F. Connect to the GCE instance using project SSH Key
- G. Identify previous logins in system logs, and match these with the project owners list.

Answer: C

NEW QUESTION 55

- (Exam Topic 5)

Your application needs to process credit card transactions. You want the smallest scope of Payment Card Industry (PCI) compliance without compromising the ability to analyze transactional data and trends relating to which payment methods are used. How should you design your architecture?

- A. Create a tokenizer service and store only tokenized data.
- B. Create separate projects that only process credit card data.
- C. Create separate subnetworks and isolate the components that process credit card data.
- D. Streamline the audit discovery phase by labeling all of the virtual machines (VMs) that process PCI data.
- E. Enable Logging export to Google BigQuery and use ACLs and views to scope the data shared with the auditor.

Answer: A

Explanation:

<https://cloud.google.com/solutions/pci-dss-compliance-in-gcp>

NEW QUESTION 56

- (Exam Topic 5)

You have a Python web application with many dependencies that requires 0.1 CPU cores and 128 MB of memory to operate in production. You want to monitor and maximize machine utilization. You also want to reliably deploy new versions of the application. Which set of steps should you take?

- A. Perform the following: 1) Create a managed instance group with f1-micro type machines. 2) Use a startup script to clone the repository, check out the production branch, install the dependencies, and start the Python app. 3) Restart the instances to automatically deploy new production releases.
- B. Perform the following: 1) Create a managed instance group with n1-standard-1 type machines. 2) Build a Compute Engine image from the production branch that contains all of the dependencies and automatically starts the Python app. 3) Rebuild the Compute Engine image, and update the instance template to deploy new production releases.
- C. Perform the following: 1) Create a Kubernetes Engine cluster with n1-standard-1 type machines. 2) Build a Docker image from the production branch with all of the dependencies, and tag it with the version number. 3) Create a Kubernetes Deployment with the imagePullPolicy set to "IfNotPresent" in the staging namespace, and then promote it to the production namespace after testing.
- D. Perform the following: 1) Create a Kubernetes Engine cluster with n1-standard-4 type machines. 2) Build a Docker image from the master branch with all of the dependencies, and tag it with "latest". 3) Create a Kubernetes Deployment in the default namespace with the imagePullPolicy set to "Always". Restart the pods to automatically deploy new production releases.

Answer: D

Explanation:

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

NEW QUESTION 57

- (Exam Topic 5)

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

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

Answer: B

Explanation:

https://cloud.google.com/solutions/federating-gcp-with-active-directory-introduction#implementing_federation

NEW QUESTION 60

- (Exam Topic 5)

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

Which primary compute resource should you choose?

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

Answer: A

Explanation:

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

NEW QUESTION 61

- (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 64

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