

# Google

## Exam Questions Professional-Cloud-DevOps-Engineer

Google Cloud Certified - Professional Cloud DevOps Engineer Exam



**NEW QUESTION 1**

You use Cloud Build to build your application. You want to reduce the build time while minimizing cost and development effort. What should you do?

- A. Use Cloud Storage to cache intermediate artifacts.
- B. Run multiple Jenkins agents to parallelize the build.
- C. Use multiple smaller build steps to minimize execution time.
- D. Use larger Cloud Build virtual machines (VMs) by using the machine-type option.

**Answer:** C

**Explanation:**

<https://cloud.google.com/storage/docs/best-practices>

[https://cloud.google.com/build/docs/speeding-up-builds#caching\\_directories\\_with\\_google\\_cloud\\_storage](https://cloud.google.com/build/docs/speeding-up-builds#caching_directories_with_google_cloud_storage) Caching directories with Google Cloud Storage To increase the speed of a build, reuse the results from a

previous build. You can copy the results of a previous build to a Google Cloud Storage bucket, use the results for faster calculation, and then copy the new results back to the bucket. Use this method when your build takes a long time and produces a small number of files that does not take time to copy to and from Google Cloud Storage.

upvoted 2 times

**NEW QUESTION 2**

You encounter a large number of outages in the production systems you support. You receive alerts for all the outages that wake you up at night. The alerts are due to unhealthy systems that are automatically restarted within a minute. You want to set up a process that would prevent staff burnout while following Site Reliability Engineering practices. What should you do?

- A. Eliminate unactionable alerts.
- B. Create an incident report for each of the alerts.
- C. Distribute the alerts to engineers in different time zones.
- D. Redefine the related Service Level Objective so that the error budget is not exhausted.

**Answer:** A

**Explanation:**

Eliminate bad monitoring : Unactionable alerts (i.e., spam) <https://cloud.google.com/blog/products/management-tools/meeting-reliability-challenges-with-sre-principles>

agree with kyubiblaze about having to remove unactionable items aka spam: "good monitoring alerts on actionable problems" @

<https://cloud.google.com/blog/products/management-tools/meeting-reliability-challenges-with-sre-principles>

**NEW QUESTION 3**

You support a high-traffic web application with a microservice architecture. The home page of the application displays multiple widgets containing content such as the current weather, stock prices, and news headlines. The main serving thread makes a call to a dedicated microservice for each widget and then lays out the homepage for the user. The microservices occasionally fail; when that happens, the serving thread serves the homepage with some missing content. Users of the application are unhappy if this degraded mode occurs too frequently, but they would rather have some content served instead of no content at all. You want to set a Service Level Objective (SLO) to ensure that the user experience does not degrade too much. What Service Level Indicator (SLI) should you use to measure this?

- A. A quality SLI: the ratio of non-degraded responses to total responses
- B. An availability SLI: the ratio of healthy microservices to the total number of microservices
- C. A freshness SLI: the proportion of widgets that have been updated within the last 10 minutes
- D. A latency SLI: the ratio of microservice calls that complete in under 100 ms to the total number of microservice calls

**Answer:** B

**Explanation:**

<https://cloud.google.com/blog/products/gcp/available-or-not-that-is-the-question-cre-life-lessons>

**NEW QUESTION 4**

You are ready to deploy a new feature of a web-based application to production. You want to use Google Kubernetes Engine (GKE) to perform a phased rollout to half of the web server pods.

What should you do?

- A. Use a partitioned rolling update.
- B. Use Node taints with NoExecute.
- C. Use a replica set in the deployment specification.
- D. Use a stateful set with parallel pod management policy.

**Answer:** A

**Explanation:**

<https://medium.com/velotio-perspectives/exploring-upgrade-strategies-for-stateful-sets-in-kubernetes-c02b8286f>

**NEW QUESTION 5**

You support an application deployed on Compute Engine. The application connects to a Cloud SQL instance to store and retrieve data. After an update to the application, users report errors showing database timeout messages. The number of concurrent active users remained stable. You need to find the most probable cause of the database timeout. What should you do?

- A. Check the serial port logs of the Compute Engine instance.
- B. Use Stackdriver Profiler to visualize the resources utilization throughout the application.

- C. Determine whether there is an increased number of connections to the Cloud SQL instance.
- D. Use Cloud Security Scanner to see whether your Cloud SQL is under a Distributed Denial of Service (DDoS) attack.

**Answer:** B

#### NEW QUESTION 6

You need to run a business-critical workload on a fixed set of Compute Engine instances for several months. The workload is stable with the exact amount of resources allocated to it. You want to lower the costs for this workload without any performance implications. What should you do?

- A. Purchase Committed Use Discounts.
- B. Migrate the instances to a Managed Instance Group.
- C. Convert the instances to preemptible virtual machines.
- D. Create an Unmanaged Instance Group for the instances used to run the workload.

**Answer:** A

#### NEW QUESTION 7

Your organization recently adopted a container-based workflow for application development. Your team develops numerous applications that are deployed continuously through an automated build pipeline to a Kubernetes cluster in the production environment. The security auditor is concerned that developers or operators could circumvent automated testing and push code changes to production without approval. What should you do to enforce approvals?

- A. Configure the build system with protected branches that require pull request approval.
- B. Use an Admission Controller to verify that incoming requests originate from approved sources.
- C. Leverage Kubernetes Role-Based Access Control (RBAC) to restrict access to only approved users.
- D. Enable binary authorization inside the Kubernetes cluster and configure the build pipeline as an attestor.

**Answer:** D

#### Explanation:

The keywords here is "developers or operators". Option A the operators could push images to production without approval (operators could touch the cluster directly and the cluster cannot do any action against them). Rest same as francisco\_guerra.

#### NEW QUESTION 8

You support a service with a well-defined Service Level Objective (SLO). Over the previous 6 months, your service has consistently met its SLO and customer satisfaction has been consistently high. Most of your service's operations tasks are automated and few repetitive tasks occur frequently. You want to optimize the balance between reliability and deployment velocity while following site reliability engineering best practices. What should you do? (Choose two.)

- A. Make the service's SLO more strict.
- B. Increase the service's deployment velocity and/or risk.
- C. Shift engineering time to other services that need more reliability.
- D. Get the product team to prioritize reliability work over new features.
- E. Change the implementation of your Service Level Indicators (SLIs) to increase coverage.

**Answer:** BC

#### Explanation:

(<https://sre.google/workbook/implementing-slos/#slo-decision-matrix>)

#### NEW QUESTION 9

You support a Node.js application running on Google Kubernetes Engine (GKE) in production. The application makes several HTTP requests to dependent applications. You want to anticipate which dependent applications might cause performance issues. What should you do?

- A. Instrument all applications with Stackdriver Profiler.
- B. Instrument all applications with Stackdriver Trace and review inter-service HTTP requests.
- C. Use Stackdriver Debugger to review the execution of logic within each application to instrument all applications.
- D. Modify the Node.js application to log HTTP request and response times to dependent application
- E. Use Stackdriver Logging to find dependent applications that are performing poorly.

**Answer:** B

#### NEW QUESTION 10

You are responsible for the reliability of a high-volume enterprise application. A large number of users report that an important subset of the application's functionality – a data intensive reporting feature – is consistently failing with an HTTP 500 error. When you investigate your application's dashboards, you notice a strong correlation between the failures and a metric that represents the size of an internal queue used for generating reports. You trace the failures to a reporting backend that is experiencing high I/O wait times. You quickly fix the issue by resizing the backend's persistent disk (PD). How you need to create an availability Service Level Indicator (SLI) for the report generation feature. How would you define it?

- A. As the I/O wait times aggregated across all report generation backends
- B. As the proportion of report generation requests that result in a successful response
- C. As the application's report generation queue size compared to a known-good threshold
- D. As the reporting backend PD throughput capacity compared to a known-good threshold

**Answer:** B

#### Explanation:

According to SRE Workbook, one of potential SLI is as below:

\* Type of service: Request-driven

\* Type of SLI: Availability

\* Description: The proportion of requests that resulted in a successful response. <https://sre.google/workbook/implementing-slos/>

#### NEW QUESTION 10

Your company follows Site Reliability Engineering practices. You are the person in charge of Communications for a large, ongoing incident affecting your customer-facing applications. There is still no estimated time for a resolution of the outage. You are receiving emails from internal stakeholders who want updates on the outage, as well as emails from customers who want to know what is happening. You want to efficiently provide updates to everyone affected by the outage. What should you do?

- A. Focus on responding to internal stakeholders at least every 30 minute
- B. Commit to "next update" times.
- C. Provide periodic updates to all stakeholders in a timely manne
- D. Commit to a "next update" time in all communications.
- E. Delegate the responding to internal stakeholder emails to another member of the Incident Response Tea
- F. Focus on providing responses directly to customers.
- G. Provide all internal stakeholder emails to the Incident Commander, and allow them to manage internal communication
- H. Focus on providing responses directly to customers.

**Answer:** B

#### Explanation:

When disaster strikes, the person who declares the incident typically steps into the IC role and directs the high-level state of the incident. The IC concentrates on the 3Cs and does the following: Commands and coordinates the incident response, delegating roles as needed. By default, the IC assumes all roles that have not been delegated yet. Communicates effectively. Stays in control of the incident response. Works with other responders to resolve the incident. <https://sre.google/workbook/incident-response/>

#### NEW QUESTION 14

You are creating and assigning action items in a postmodern for an outage. The outage is over, but you need to address the root causes. You want to ensure that your team handles the action items quickly and efficiently. How should you assign owners and collaborators to action items?

- A. Assign one owner for each action item and any necessary collaborators.
- B. Assign multiple owners for each item to guarantee that the team addresses items quickly
- C. Assign collaborators but no individual owners to the items to keep the postmortem blameless.
- D. Assign the team lead as the owner for all action items because they are in charge of the SRE team.

**Answer:** A

#### Explanation:

<https://devops.com/when-it-disaster-strikes-part-3-conducting-a-blameless-post-mortem/>

#### NEW QUESTION 19

Your product is currently deployed in three Google Cloud Platform (GCP) zones with your users divided between the zones. You can fail over from one zone to another, but it causes a 10-minute service disruption for the affected users. You typically experience a database failure once per quarter and can detect it within five minutes. You are cataloging the reliability risks of a new real-time chat feature for your product. You catalog the following information for each risk:

- Mean Time to Detect (MTD) in minutes
- Mean Time to Repair (MTTR) in minutes
- Mean Time Between Failure (MTBF) in days
- User Impact Percentage

The chat feature requires a new database system that takes twice as long to successfully fail over between zones. You want to account for the risk of the new database failing in one zone. What would be the values for the risk of database failover with the new system?

- A. MTTD: 5MTTR: 10MTBF: 90Impact: 33%
- B. MTTD:5 MTTR: 20MTBF: 90Impact: 33%
- C. MTTD:5 MTTR: 10MTBF: 90Impact 50%
- D. MTTD:5 MTTR: 20MTBF: 90Impact: 50%

**Answer:** B

#### Explanation:

<https://www.atlassian.com/incident-management/kpis/common-metrics> <https://linkedin.github.io/school-of-sre/>

#### NEW QUESTION 22

Your development team has created a new version of their service's API. You need to deploy the new versions of the API with the least disruption to third-party developers and end users of third-party installed applications. What should you do?

- A. Introduce the new version of the API.Announce deprecation of the old version of the AP
- B. Deprecate the old version of the API.Contact remaining users of the old API.Provide best effort support to users of the old AP
- C. Turn down the old version of the API.
- D. Announce deprecation of the old version of the AP
- E. Introduce the new version of the API.Contact remaining users on the old AP
- F. Deprecate the old version of the AP
- G. Turn down the old version of the API.Provide best effort support to users of the old API.
- H. Announce deprecation of the old version of the AP
- I. Contact remaining users on the old API.Introduce the new version of the AP
- J. Deprecate the old version of the API.Provide best effort support to users of the old AP
- K. Turn down the old version of the API.
- L. Introduce the new version of the AP
- M. Contact remaining users of the old API.Announce deprecation of the old version of the AP
- N. Deprecate the old version of the API.Turn down the old version of the API.Provide best effort support to users of the old API.

**Answer:** A

**NEW QUESTION 27**

You have migrated an e-commerce application to Google Cloud Platform (GCP). You want to prepare the application for the upcoming busy season. What should you do first to prepare for the busy season?

- A. Load test the application to profile its performance for scaling.
- B. Enable AutoScaling on the production clusters, in case there is growth.
- C. Pre-provision double the compute power used last season, expecting growth.
- D. Create a runbook on inflating the disaster recovery (DR) environment if there is growth.

**Answer:** A

**Explanation:**

<https://cloud.google.com/blog/topics/retail/preparing-for-peak-holiday-season-while-wfh>

**NEW QUESTION 29**

You manage an application that is writing logs to Stackdriver Logging. You need to give some team members the ability to export logs. What should you do?

- A. Grant the team members the IAM role of logging.configWriter on Cloud IAM.
- B. Configure Access Context Manager to allow only these members to export logs.
- C. Create and grant a custom IAM role with the permissions logging.sinks.list and logging.sink.get.
- D. Create an Organizational Policy in Cloud IAM to allow only these members to create log exports.

**Answer:** A

**Explanation:**

<https://cloud.google.com/logging/docs/access-control>

**NEW QUESTION 32**

You need to deploy a new service to production. The service needs to automatically scale using a Managed Instance Group (MIG) and should be deployed over multiple regions. The service needs a large number of resources for each instance and you need to plan for capacity. What should you do?

- A. Use the n1-highcpu-96 machine type in the configuration of the MIG.
- B. Monitor results of Stackdriver Trace to determine the required amount of resources.
- C. Validate that the resource requirements are within the available quota limits of each region.
- D. Deploy the service in one region and use a global load balancer to route traffic to this region.

**Answer:** C

**Explanation:**

[https://cloud.google.com/compute/quotas#understanding\\_quotas](https://cloud.google.com/compute/quotas#understanding_quotas) <https://cloud.google.com/compute/quotas>

**NEW QUESTION 37**

You support an e-commerce application that runs on a large Google Kubernetes Engine (GKE) cluster deployed on-premises and on Google Cloud Platform. The application consists of microservices that run in containers. You want to identify containers that are using the most CPU and memory. What should you do?

- A. Use Stackdriver Kubernetes Engine Monitoring.
- B. Use Prometheus to collect and aggregate logs per container, and then analyze the results in Grafana.
- C. Use the Stackdriver Monitoring API to create custom metrics, and then organize your containers using groups.
- D. Use Stackdriver Logging to export application logs to BigQuery
- E. aggregate logs per container, and then analyze CPU and memory consumption.

**Answer:** A

**Explanation:**

<https://cloud.google.com/anthos/clusters/docs/on-prem/1.7/concepts/logging-and-monitoring>

**NEW QUESTION 39**

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