

Google

Exam Questions Professional-Cloud-DevOps-Engineer

Google Cloud Certified - Professional Cloud DevOps Engineer Exam



NEW QUESTION 1

Your company follows Site Reliability Engineering principles. You are writing a postmortem for an incident, triggered by a software change, that severely affected users. You want to prevent severe incidents from happening in the future. What should you do?

- A. Identify engineers responsible for the incident and escalate to their senior management.
- B. Ensure that test cases that catch errors of this type are run successfully before new software releases.
- C. Follow up with the employees who reviewed the changes and prescribe practices they should follow in the future.
- D. Design a policy that will require on-call teams to immediately call engineers and management to discuss a plan of action if an incident occurs.

Answer: B

NEW QUESTION 2

You use Spinnaker to deploy your application and have created a canary deployment stage in the pipeline. Your application has an in-memory cache that loads objects at start time. You want to automate the comparison of the canary version against the production version. How should you configure the canary analysis?

- A. Compare the canary with a new deployment of the current production version.
- B. Compare the canary with a new deployment of the previous production version.
- C. Compare the canary with the existing deployment of the current production version.
- D. Compare the canary with the average performance of a sliding window of previous production versions.

Answer: A

Explanation:

<https://cloud.google.com/architecture/automated-canary-analysis-kubernetes-engine-spinnaker> <https://spinnaker.io/guides/user/canary/best-practices/#compare-canary-against-baseline-not-against-production>

NEW QUESTION 3

You support an application running on App Engine. The application is used globally and accessed from various device types. You want to know the number of connections. You are using Stackdriver Monitoring for App Engine. What metric should you use?

- A. flex/connections/current
- B. tcp_ssl_proxy/new_connections
- C. tcp_ssl_proxy/open_connections
- D. flex/instance/connections/current

Answer: A

Explanation:

https://cloud.google.com/monitoring/api/metrics_gcp#gcp-appengine

NEW QUESTION 4

You have a set of applications running on a Google Kubernetes Engine (GKE) cluster, and you are using Stackdriver Kubernetes Engine Monitoring. You are bringing a new containerized application required by your company into production. This application is written by a third party and cannot be modified or reconfigured. The application writes its log information to `/var/log/app_messages.log`, and you want to send these log entries to Stackdriver Logging. What should you do?

- A. Use the default Stackdriver Kubernetes Engine Monitoring agent configuration.
- B. Deploy a Fluentd daemonset to GK
- C. Then create a customized input and output configuration to tail the log file in the application's pods and write to Stackdriver Logging.
- D. Install Kubernetes on Google Compute Engine (GCE) and redeploy your application
- E. Then customize the built-in Stackdriver Logging configuration to tail the log file in the application's pods and write to Stackdriver Logging.
- F. Write a script to tail the log file within the pod and write entries to standard output
- G. Run the script as a sidecar container with the application's pod
- H. Configure a shared volume between the containers to allow the script to have read access to `/var/log` in the application container.

Answer: B

Explanation:

<https://cloud.google.com/architecture/customizing-stackdriver-logs-fluentd>

Besides the list of default logs that the Logging agent streams by default, you can customize the Logging agent to send additional logs to Logging or to adjust agent settings by adding input configurations. The configuration definitions in these sections apply to the fluent-plugin-google-cloud output plugin only and specify how logs are transformed and ingested into Cloud Logging. <https://cloud.google.com/logging/docs/agent/logging/configuration#configure>

NEW QUESTION 5

You are working with a government agency that requires you to archive application logs for seven years. You need to configure Stackdriver to export and store the logs while minimizing costs of storage. What should you do?

- A. Create a Cloud Storage bucket and develop your application to send logs directly to the bucket.
- B. Develop an App Engine application that pulls the logs from Stackdriver and saves them in BigQuery.
- C. Create an export in Stackdriver and configure Cloud Pub/Sub to store logs in permanent storage for seven years.
- D. Create a sink in Stackdriver, name it, create a bucket on Cloud Storage for storing archived logs, and then select the bucket as the log export destination.

Answer: D

Explanation:

<https://cloud.google.com/logging/docs/routing/overview>

NEW QUESTION 6

You use a multiple step Cloud Build pipeline to build and deploy your application to Google Kubernetes Engine (GKE). You want to integrate with a third-party monitoring platform by performing a HTTP POST of the build information to a webhook. You want to minimize the development effort. What should you do?

- A. Add logic to each Cloud Build step to HTTP POST the build information to a webhook.
- B. Add a new step at the end of the pipeline in Cloud Build to HTTP POST the build information to a webhook.
- C. Use Stackdriver Logging to create a logs-based metric from the Cloud Build log
- D. Create an Alert with a Webhook notification type.
- E. Create a Cloud Pub/Sub push subscription to the Cloud Build cloud-builds PubSub topic to HTTP POST the build information to a webhook.

Answer: D

NEW QUESTION 7

You have a CI/CD pipeline that uses Cloud Build to build new Docker images and push them to Docker Hub. You use Git for code versioning. After making a change in the Cloud Build YAML configuration, you notice that no new artifacts are being built by the pipeline. You need to resolve the issue following Site Reliability Engineering practices. What should you do?

- A. Disable the CI pipeline and revert to manually building and pushing the artifacts.
- B. Change the CI pipeline to push the artifacts to Container Registry instead of Docker Hub.
- C. Upload the configuration YAML file to Cloud Storage and use Error Reporting to identify and fix the issue.
- D. Run a Git compare between the previous and current Cloud Build Configuration files to find and fix the bug.

Answer: D

Explanation:

"After making a change in the Cloud Build YAML configuration, you notice that no new artifacts are being built by the pipeline"- means something wrong on the recent change not with the image registry.

NEW QUESTION 8

Your company experiences bugs, outages, and slowness in its production systems. Developers use the production environment for new feature development and bug fixes. Configuration and experiments are done in the production environment, causing outages for users. Testers use the production environment for load testing, which often slows the production systems. You need to redesign the environment to reduce the number of bugs and outages in production and to enable testers to load test new features. What should you do?

- A. Create an automated testing script in production to detect failures as soon as they occur.
- B. Create a development environment with smaller server capacity and give access only to developers and testers.
- C. Secure the production environment to ensure that developers can't change it and set up one controlled update per year.
- D. Create a development environment for writing code and a test environment for configurations, experiments, and load testing.

Answer: D

NEW QUESTION 9

You support a stateless web-based API that is deployed on a single Compute Engine instance in the europe-west2-a zone . The Service Level Indicator (SLI) for service availability is below the specified Service Level Objective (SLO). A postmortem has revealed that requests to the API regularly time out. The time outs are due to the API having a high number of requests and running out memory. You want to improve service availability. What should you do?

- A. Change the specified SLO to match the measured SLI.
- B. Move the service to higher-specification compute instances with more memory.
- C. Set up additional service instances in other zones and load balance the traffic between all instances.
- D. Set up additional service instances in other zones and use them as a failover in case the primary instance is unavailable.

Answer: C

NEW QUESTION 10

You support a large service with a well-defined Service Level Objective (SLO). The development team deploys new releases of the service multiple times a week. If a major incident causes the service to miss its SLO, you want the development team to shift its focus from working on features to improving service reliability. What should you do before a major incident occurs?

- A. Develop an appropriate error budget policy in cooperation with all service stakeholders.
- B. Negotiate with the product team to always prioritize service reliability over releasing new features.
- C. Negotiate with the development team to reduce the release frequency to no more than once a week.
- D. Add a plugin to your Jenkins pipeline that prevents new releases whenever your service is out of SLO.

Answer: A

Explanation:

Reason : Incident has not occurred yet, even when development team is already pushing new features multiple times a week. The option A says, to define an error budget "policy", not to define error budget(It is already present). Just simple means to bring in all stakeholders, and decide how to consume the error budget effectively that could bring balance between feature deployment and reliability.

The goals of this policy are to: -- Protect customers from repeated SLO misses -- Provide an incentive to balance reliability with other features

<https://sre.google/workbook/error-budget-policy/>

NEW QUESTION 10

You are running an experiment to see whether your users like a new feature of a web application. Shortly after deploying the feature as a canary release, you receive a spike in the number of 500 errors sent to users, and your monitoring reports show increased latency. You want to quickly minimize the negative impact on users.

What should you do first?

- A. Roll back the experimental canary release.
- B. Start monitoring latency, traffic, errors, and saturation.
- C. Record data for the postmortem document of the incident.
- D. Trace the origin of 500 errors and the root cause of increased latency.

Answer: A

NEW QUESTION 15

You created a Stackdriver chart for CPU utilization in a dashboard within your workspace project. You want to share the chart with your Site Reliability Engineering (SRE) team only. You want to ensure you follow the principle of least privilege. What should you do?

- A. Share the workspace Project ID with the SRE tea
- B. Assign the SRE team the Monitoring Viewer IAM role in the workspace project.
- C. Share the workspace Project ID with the SRE tea
- D. Assign the SRE team the Dashboard Viewer IAM role in the workspace project.
- E. Click "Share chart by URL" and provide the URL to the SRE tea
- F. Assign the SRE team the Monitoring Viewer IAM role in the workspace project.
- G. Click "Share chart by URL" and provide the URL to the SRE tea
- H. Assign the SRE team the Dashboard Viewer IAM role in the workspace project.

Answer: C

Explanation:

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

NEW QUESTION 19

You support a web application that is hosted on Compute Engine. The application provides a booking service for thousands of users. Shortly after the release of a new feature, your monitoring dashboard shows that all users are experiencing latency at login. You want to mitigate the impact of the incident on the users of your service. What should you do first?

- A. Roll back the recent release.
- B. Review the Stackdriver monitoring.
- C. Upsize the virtual machines running the login services.
- D. Deploy a new release to see whether it fixes the problem.

Answer: C

Explanation:

Rollback to previous stable version. Then you need to find what is causing the issue.

NEW QUESTION 24

Your team has recently deployed an NGINX-based application into Google Kubernetes Engine (GKE) and has exposed it to the public via an HTTP Google Cloud Load Balancer (GCLB) ingress. You want to scale the deployment of the application's frontend using an appropriate Service Level Indicator (SLI). What should you do?

- A. Configure the horizontal pod autoscaler to use the average response time from the Liveness and Readiness probes.
- B. Configure the vertical pod autoscaler in GKE and enable the cluster autoscaler to scale the cluster as pods expand.
- C. Install the Stackdriver custom metrics adapter and configure a horizontal pod autoscaler to use the number of requests provided by the GCLB.
- D. Expose the NGINX stats endpoint and configure the horizontal pod autoscaler to use the request metrics exposed by the NGINX deployment.

Answer: C

Explanation:

<https://cloud.google.com/kubernetes-engine/docs/tutorials/autoscaling-metrics>

NEW QUESTION 26

You deploy a new release of an internal application during a weekend maintenance window when there is minimal user traffic. After the window ends, you learn that one of the new features isn't working as expected in the production environment. After an extended outage, you roll back the new release and deploy a fix. You want to modify your release process to reduce the mean time to recovery so you can avoid extended outages in the future. What should you do?

Choose 2 answers

- A. Before merging new code, require 2 different peers to review the code changes.
- B. Adopt the blue/green deployment strategy when releasing new code via a CD server.
- C. Integrate a code linting tool to validate coding standards before any code is accepted into the repository.
- D. Require developers to run automated integration tests on their local development environments before release.
- E. Configure a CI serve
- F. Add a suite of unit tests to your code and have your CI server run them on commit and verify any changes.

Answer: BE

NEW QUESTION 28

You support a multi-region web service running on Google Kubernetes Engine (GKE) behind a Global HTTP'S Cloud Load Balancer (CLB). For legacy reasons, user requests first go through a third-party Content Delivery Network (CDN). which then routes traffic to the CLB. You have already implemented an availability Service Level Indicator (SLI) at the CLB level. However, you want to increase coverage in case of a potential load balancer misconfiguration. CDN failure, or other global networking catastrophe. Where should you measure this new SLI?

Choose 2 answers

- A. Your application servers' logs
- B. Instrumentation coded directly in the client
- C. Metrics exported from the application servers
- D. GKE health checks for your application servers
- E. A synthetic client that periodically sends simulated user requests

Answer: BE

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>

NEW QUESTION 33

Your application artifacts are being built and deployed via a CI/CD pipeline. You want the CI/CD pipeline to securely access application secrets. You also want to more easily rotate secrets in case of a security breach. What should you do?

- A. Prompt developers for secrets at build time
- B. Instruct developers to not store secrets at rest.
- C. Store secrets in a separate configuration file on Git
- D. Provide select developers with access to the configuration file.
- E. Store secrets in Cloud Storage encrypted with a key from Cloud KMS
- F. Provide the CI/CD pipeline with access to Cloud KMS via IAM.
- G. Encrypt the secrets and store them in the source code repository
- H. Store a decryption key in a separate repository and grant your pipeline access to it

Answer: C

NEW QUESTION 34

You support a service that recently had an outage. The outage was caused by a new release that exhausted the service memory resources. You rolled back the release successfully to mitigate the impact on users. You are now in charge of the post-mortem for the outage. You want to follow Site Reliability Engineering practices when developing the post-mortem. What should you do?

- A. Focus on developing new features rather than avoiding the outages from recurring.
- B. Focus on identifying the contributing causes of the incident rather than the individual responsible for the cause.
- C. Plan individual meetings with all the engineers involved
- D. Determine who approved and pushed the new release to production.
- E. Use the Git history to find the related code commit
- F. Prevent the engineer who made that commit from working on production services.

Answer: B

NEW QUESTION 37

You support a user-facing web application. When analyzing the application's error budget over the previous six months, you notice that the application has never consumed more than 5% of its error budget in any given time window. You hold a Service Level Objective (SLO) review with business stakeholders and confirm that the SLO is set appropriately. You want your application's SLO to more closely reflect its observed reliability. What steps can you take to further that goal while balancing velocity, reliability, and business needs? (Choose two.)

- A. Add more serving capacity to all of your application's zones.
- B. Have more frequent or potentially risky application releases.
- C. Tighten the SLO to match the application's observed reliability.
- D. Implement and measure additional Service Level Indicators (SLIs) from the application.
- E. Announce planned downtime to consume more error budget, and ensure that users are not depending on a tighter SLO.

Answer: DE

Explanation:

<https://sre.google/sre-book/service-level-objectives/>

You want the application's SLO to more closely reflect its observed reliability. The key here is error budget never goes over 5%. This means they can have additional downtime and still stay within their budget.

NEW QUESTION 42

You are performing a semiannual capacity planning exercise for your flagship service. You expect a service user growth rate of 10% month-over-month over the next six months. Your service is fully containerized and runs on Google Cloud Platform (GCP), using a Google Kubernetes Engine (GKE) Standard regional cluster on three zones with cluster autoscaler enabled. You currently consume about 30% of your total deployed CPU capacity, and you require resilience against the failure of a zone. You want to ensure that your users experience minimal negative impact as a result of this growth or as a result of zone failure, while avoiding unnecessary costs. How should you prepare to handle the predicted growth?

- A. Verify the maximum node pool size, enable a horizontal pod autoscaler, and then perform a load test to verify your expected resource needs.

- B. Because you are deployed on GKE and are using a cluster autoscale
- C. your GKE cluster will scale automatically, regardless of growth rate.
- D. Because you are at only 30% utilization, you have significant headroom and you won't need to add any additional capacity for this rate of growth.
- E. Proactively add 60% more node capacity to account for six months of 10% growth rate, and then perform a load test to make sure you have enough capacity.

Answer: A

Explanation:

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

The Horizontal Pod Autoscaler changes the shape of your Kubernetes workload by automatically increasing or decreasing the number of Pods in response to the workload's CPU or memory consumption

NEW QUESTION 47

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