

Associate Cloud Engineer

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Associate Cloud Engineer

Exam A

QUESTION 1

You want to configure autohealing for network load balancing for a group of Compute Engine instances that run in multiple zones, using the fewest possible steps. You need to configure re-creation of VMs if they are unresponsive after 3 attempts of 10 seconds each. What should you do?

- A. Create an HTTP load balancer with a backend configuration that references an existing instance group. Set the health check to `healthy (HTTP)`
- B. Create an HTTP load balancer with a backend configuration that references an existing instance group. Define a balancing mode and set the maximum RPS to 10.
- C. Create a managed instance group. Set the Autohealing health check to `healthy (HTTP)`
- D. Create a managed instance group. Verify that the autoscaling setting is on.

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

QUESTION 2

You are using multiple configurations for gcloud. You want to review the configured Kubernetes Engine cluster of an inactive configuration using the fewest possible steps. What should you do?

- A. Use `gcloud config configurations describe` to review the output.
- B. Use `gcloud config configurations activate` and `gcloud config list` to review the output.
- C. Use `kubectl config get-contexts` to review the output.
- D. Use `kubectl config use-context` and `kubectl config view` to review the output.

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

Reference: <https://medium.com/google-cloud/kubernetes-engine-kubectl-config-b6270d2b656c>

QUESTION 3

Your company uses Cloud Storage to store application backup files for disaster recovery purposes. You want to follow Google's recommended practices. Which storage option should you use?

- A. Multi-Regional Storage
- B. Regional Storage
- C. Nearline Storage
- D. Coldline Storage

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

Reference: <https://cloud.google.com/storage/docs/storage-classes#nearline>

QUESTION 4

Several employees at your company have been creating projects with Cloud Platform and paying for it with their personal credit cards, which the company reimburses. The company wants to centralize all these projects

under a single, new billing account. What should you do?

- A. Contact `cloud-billing@google.com` with your bank account details and request a corporate billing account for your company.
- B. Create a ticket with Google Support and wait for their call to share your credit card details over the phone.
- C. In the Google Platform Console, go to the Resource Manager and move all projects to the root Organization.
- D. In the Google Cloud Platform Console, create a new billing account and set up a payment method.

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

Reference: <https://www.whizlabs.com/blog/google-cloud-interview-questions/>

QUESTION 5

You are deploying an application to App Engine. You want the number of instances to scale based on request rate. You need at least 3 unoccupied instances at all times. Which scaling type should you use?

- A. Manual Scaling with 3 instances.
- B. Basic Scaling with `min_instances` set to 3.
- C. Basic Scaling with `max_instances` set to 3.
- D. Automatic Scaling with `min_idle_instances` set to 3.

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

Reference: <https://cloud.google.com/appengine/docs/standard/python/how-instances-are-managed>

QUESTION 6

You have a development project with appropriate IAM roles defined. You are creating a production project and want to have the same IAM roles on the new project, using the fewest possible steps. What should you do?

- A. Use `gcloud iam roles copy` and specify the production project as the destination project.
- B. Use `gcloud iam roles copy` and specify your organization as the destination organization.
- C. In the Google Cloud Platform Console, use the 'create role from role' functionality.
- D. In the Google Cloud Platform Console, use the 'create role' functionality and select all applicable permissions.

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Reference: <https://cloud.google.com/sdk/gcloud/reference/iam/roles/copy>

QUESTION 7

You need a dynamic way of provisioning VMs on Compute Engine. The exact specifications will be in a dedicated configuration file. You want to follow Google's recommended practices. Which method should you use?

- A. Deployment Manager
- B. Cloud Composer

- C. Managed Instance Group
- D. Unmanaged Instance Group

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

Reference: <https://cloud.google.com/compute/docs/instances/>

QUESTION 8

You have a Dockerfile that you need to deploy on Kubernetes Engine. What should you do?

- A. Use `kubectl app deploy <dockerfilename>.`
- B. Use `gcloud app deploy <dockerfilename>.`
- C. Create a docker image from the Dockerfile and upload it to Container Registry. Create a Deployment YAML file to point to that image. Use `kubectl` to create the deployment with that file.
- D. Create a docker image from the Dockerfile and upload it to Cloud Storage. Create a Deployment YAML file to point to that image. Use `kubectl` to create the deployment with that file.

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

Reference <https://cloud.google.com/kubernetes-engine/docs/tutorials/hello-app>

QUESTION 9

Your development team needs a new Jenkins server for their project. You need to deploy the server using the fewest steps possible. What should you do?

- A. Download and deploy the Jenkins Java WAR to App Engine Standard.
- B. Create a new Compute Engine instance and install Jenkins through the command line interface.
- C. Create a Kubernetes cluster on Compute Engine and create a deployment with the Jenkins Docker image.
- D. Use GCP Marketplace to launch the Jenkins solution.

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

Reference: <https://cloud.google.com/solutions/using-jenkins-for-distributed-builds-on-compute-engine>

QUESTION 10

You need to update a deployment in Deployment Manager without any resource downtime in the deployment. Which command should you use?

- A. `gcloud deployment-manager deployments create --config <deployment-config-path>`
- B. `gcloud deployment-manager deployments update --config <deployment-config-path>`
- C. `gcloud deployment-manager resources create --config <deployment-config-path>`
- D. `gcloud deployment-manager resources update --config <deployment-config-path>`

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Reference: <https://cloud.google.com/sdk/gcloud/reference/deployment-manager/deployments/update>

QUESTION 11

You need to run an important query in BigQuery but expect it to return a lot of records. You want to find out how much it will cost to run the query. You are using on-demand pricing. What should you do?

- A. Arrange to switch to Flat-Rate pricing for this query, then move back to on-demand.
- B. Use the command line to run a dry run query to estimate the number of bytes read. Then convert that bytes estimate to dollars using the Pricing Calculator.
- C. Use the command line to run a dry run query to estimate the number of bytes returned. Then convert that bytes estimate to dollars using the Pricing Calculator.
- D. Run a `select count (*)` to get an idea of how many records your query will look through. Then convert that number of rows to dollars using the Pricing Calculator.

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Reference: <https://cloud.google.com/bigquery/docs/estimate-costs>

QUESTION 12

You have a single binary application that you want to run on Google Cloud Platform. You decided to automatically scale the application based on underlying infrastructure CPU usage. Your organizational policies require you to use virtual machines directly. You need to ensure that the application scaling is operationally efficient and completed as quickly as possible. What should you do?

- A. Create a Google Kubernetes Engine cluster, and use horizontal pod autoscaling to scale the application.
- B. Create an instance template, and use the template in a managed instance group with autoscaling configured.
- C. Create an instance template, and use the template in a managed instance group that scales up and down based on the time of day.
- D. Use a set of third-party tools to build automation around scaling the application up and down, based on Stackdriver CPU usage monitoring.

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:**QUESTION 13**

You are analyzing Google Cloud Platform service costs from three separate projects. You want to use this information to create service cost estimates by service type, daily and monthly, for the next six months using standard query syntax. What should you do?

- A. Export your bill to a Cloud Storage bucket, and then import into Cloud Bigtable for analysis.
- B. Export your bill to a Cloud Storage bucket, and then import into Google Sheets for analysis.
- C. Export your transactions to a local file, and perform analysis with a desktop tool.
- D. Export your bill to a BigQuery dataset, and then write time window-based SQL queries for analysis.

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

QUESTION 14

You need to set up a policy so that videos stored in a specific Cloud Storage Regional bucket are moved to Coldline after 90 days, and then deleted after one year from their creation. How should you set up the policy?

- A. Use Cloud Storage Object Lifecycle Management using Age conditions with SetStorageClass and Delete actions. Set the SetStorageClass action to 90 days and the Delete action to 275 days (365 – 90)
- B. Use Cloud Storage Object Lifecycle Management using Age conditions with SetStorageClass and Delete actions. Set the SetStorageClass action to 90 days and the Delete action to 365 days.
- C. Use `gsutil rewrite` and set the Delete action to 275 days (365-90).
- D. Use `gsutil rewrite` and set the Delete action to 365 days.

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

QUESTION 15

You have a Linux VM that must connect to Cloud SQL. You created a service account with the appropriate access rights. You want to make sure that the VM uses this service account instead of the default Compute Engine service account. What should you do?

- A. When creating the VM via the web console, specify the service account under the 'Identity and API Access' section.
- B. Download a JSON Private Key for the service account. On the Project Metadata, add that JSON as the value for the key `compute-engine-service-account`.
- C. Download a JSON Private Key for the service account. On the Custom Metadata of the VM, add that JSON as the value for the key `compute-engine-service-account`.
- D. Download a JSON Private Key for the service account. After creating the VM, ssh into the VM and save the JSON under `~/gcloud/compute-engine-service-account.json`.

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

Reference: <https://cloud.google.com/compute/docs/access/create-enable-service-accounts-for-instances>

QUESTION 16

You created an instance of SQL Server 2017 on Compute Engine to test features in the new version. You want to connect to this instance using the fewest number of steps. What should you do?

- A. Install a RDP client on your desktop. Verify that a firewall rule for port 3389 exists.
- B. Install a RDP client in your desktop. Set a Windows username and password in the GCP Console. Use the credentials to log in to the instance.
- C. Set a Windows password in the GCP Console. Verify that a firewall rule for port 22 exists. Click the RDP button in the GCP Console and supply the credentials to log in.
- D. Set a Windows username and password in the GCP Console. Verify that a firewall rule for port 3389 exists. Click the RDP button in the GCP Console, and supply the credentials to log in.

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Reference: <https://medium.com/falafel-software/sql-server-in-the-google-cloud-a17e8a1f11ce>

QUESTION 17

You have one GCP account running in your default region and zone and another account running in a non-default region and zone. You want to start a new Compute Engine instance in these two Google Cloud Platform accounts using the command line interface. What should you do?

- A. Create two configurations using `gcloud config configurations create [NAME]`. Run `gcloud config configurations activate [NAME]` to switch between accounts when running the commands to start the Compute Engine instances.
- B. Create two configurations using `gcloud config configurations create [NAME]`. Run `gcloud configurations list` to start the Compute Engine instances.
- C. Activate two configurations using `gcloud configurations activate [NAME]`. Run `gcloud config list` to start the Compute Engine instances.
- D. Activate two configurations using `gcloud configurations activate [NAME]`. Run `gcloud configurations list` to start the Compute Engine instances.

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

Reference: <https://cloud.google.com/sdk/gcloud/reference/config/configurations/activate>

QUESTION 18

You have a project for your App Engine application that serves a development environment. The required testing has succeeded and you want to create a new project to serve as your production environment. What should you do?

- A. Use `gcloud` to create the new project, and then deploy your application to the new project.
- B. Use `gcloud` to create the new project and to copy the deployed application to the new project.
- C. Create a Deployment Manager configuration file that copies the current App Engine deployment into a new project.
- D. Deploy your application again using `gcloud` and specify the project parameter with the new project name to create the new project.

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 19

You need to configure IAM access audit logging in BigQuery for external auditors. You want to follow Google-recommended practices. What should you do?

- A. Add the auditors group to the 'logging.viewer' and 'bigQuery.dataViewer' predefined IAM roles.
- B. Add the auditors group to two new custom IAM roles.
- C. Add the auditor user accounts to the 'logging.viewer' and 'bigQuery.dataViewer' predefined IAM roles.
- D. Add the auditor user accounts to two new custom IAM roles.

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

Reference: <https://cloud.google.com/iam/docs/roles-audit-logging>

QUESTION 20

You need to set up permissions for a set of Compute Engine instances to enable them to write data into a particular Cloud Storage bucket. You want to follow Google-recommended practices. What should you do?

- A. Create a service account with an access scope. Use the access scope 'https://www.googleapis.com/auth/devstorage.write_only'.
- B. Create a service account with an access scope. Use the access scope 'https://www.googleapis.com/auth/cloud-platform'.
- C. Create a service account and add it to the IAM role 'storage.objectCreator' for that bucket.
- D. Create a service account and add it to the IAM role 'storage.objectAdmin' for that bucket.

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Reference: <https://towardsdatascience.com/enlightened-datalab-notebooks-35ce8ef374c0>

QUESTION 21

You have sensitive data stored in three Cloud Storage buckets and have enabled data access logging. You want to verify activities for a particular user for these buckets, using the fewest possible steps. You need to verify the addition of metadata labels and which files have been viewed from those buckets. What should you do?

- A. Using the GCP Console, filter the Activity log to view the information.
- B. Using the GCP Console, filter the Stackdriver log to view the information.
- C. View the bucket in the Storage section of the GCP Console.
- D. Create a trace in Stackdriver to view the information.

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

QUESTION 22

You have an object in a Cloud Storage bucket that you want to share with an external company. The object contains sensitive data. You want access to the content to be removed after four hours. The external company does not have a Google account to which you can grant specific user-based access privileges. You want to use the most secure method that requires the fewest steps. What should you do?

- A. Create a signed URL with a four-hour expiration and share the URL with the company.
- B. Set object access to 'public' and use object lifecycle management to remove the object after four hours.
- C. Configure the storage bucket as a static website and furnish the object's URL to the company. Delete the object from the storage bucket after four hours.
- D. Create a new Cloud Storage bucket specifically for the external company to access. Copy the object to that bucket. Delete the bucket after four hours have passed.

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

QUESTION 23

You want to verify the IAM users and roles assigned within a GCP project named `my-project`. What should you do?

- A. Run `gcloud iam roles list`. Review the output section.
- B. Run `gcloud iam service-accounts list`. Review the output section.
- C. Navigate to the project and then to the IAM section in the GCP Console. Review the members and roles.
- D. Navigate to the project and then to the Roles section in the GCP Console. Review the roles and status.

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

QUESTION 24

You have one project called `proj-sa` where you manage all your service accounts. You want to be able to use a service account from this project to take snapshots of VMs running in another project called `proj-vm`. What should you do?

- A. Download the private key from the service account, and add it to each VMs custom metadata.
- B. Download the private key from the service account, and add the private key to each VM's SSH keys.
- C. Grant the service account the IAM Role of Compute Storage Admin in the project called `proj-vm`.
- D. When creating the VMs, set the service account's API scope for Compute Engine to read/write.

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 25

You need to grant access for three users so that they can view and edit table data on a Cloud Spanner instance. What should you do?

- A. Run `gcloud iam roles describe roles/spanner.databaseUser`. Add the users to the role.
- B. Run `gcloud iam roles describe roles/spanner.databaseUser`. Add the users to a new group. Add the group to the role.
- C. Run `gcloud iam roles describe roles/spanner.viewer - -project my-project`. Add the users to the role.
- D. Run `gcloud iam roles describe roles/spanner.viewer - -project my-project`. Add the users to a new group. Add the group to the role.

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

QUESTION 26

You create a new Google Kubernetes Engine (GKE) cluster and want to make sure that it always runs a supported and stable version of Kubernetes. What should you do?

- A. Enable the Node Auto-Repair feature for your GKE cluster.
- B. Enable the Node Auto-Upgrades feature for your GKE cluster.
- C. Select the latest available cluster version for your GKE cluster.
- D. Select "Container-Optimized OS (cos)" as a node image for your GKE cluster.

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 27

You have 32 GB of data in a single file that you need to upload to a Nearline Storage bucket. The WAN connection you are using is rated at 1 Gbps, and you are the only one on the connection. You want to use as much of the rated 1 Gbps as possible to transfer the file rapidly. How should you upload the file?

- A. Use the GCP Console to transfer the file instead of `gsutil`.
- B. Enable parallel composite uploads using `gsutil` on the file transfer.
- C. Decrease the TCP window size on the machine initiating the transfer.
- D. Change the storage class of the bucket from Nearline to Multi-Regional.

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 28

You are running an application on multiple virtual machines within a managed instance group and have autoscaling enabled. The autoscaling policy is configured so that additional instances are added to the group if the CPU utilization of instances goes above 80%. VMs are added until the instance group reaches its maximum limit of five VMs or until CPU utilization of instances lowers to 80%. The initial delay for HTTP health checks against the instances is set to 30 seconds. The virtual machine instances take around three minutes to become available for users. You observe that when the instance group autoscales, it adds more instances than necessary to support the levels of end-user traffic. You want to properly maintain instance group sizes when autoscaling. What should you do?

- A. Set the maximum number of instances to 1.
- B. Decrease the maximum number of instances to 3.
- C. Use a TCP health check instead of an HTTP health check.
- D. Increase the initial delay of the HTTP health check to 200 seconds.

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

QUESTION 29

You recently deployed a new version of an application to App Engine and then discovered a bug in the release. You need to immediately revert to the prior version of the application. What should you do?

- A. Run `gcloud app restore`.
- B. On the App Engine page of the GCP Console, select the application that needs to be reverted and click `Revert`.
- C. On the App Engine Versions page of the GCP Console, route 100% of the traffic to the previous version.
- D. Deploy the original version as a separate application. Then go to App Engine settings and split traffic between applications so that the original version serves 100% of the requests.

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

Reference: <https://medium.com/google-cloud/app-engine-project-cleanup-9647296e796a>

QUESTION 30

You want to configure 10 Compute Engine instances for availability when maintenance occurs. Your requirements state that these instances should attempt to automatically restart if they crash. Also, the instances should be highly available including during system maintenance. What should you do?

- A. Create an instance template for the instances. Set the 'Automatic Restart' to on. Set the 'On-host maintenance' to `Migrate VM instance`. Add the instance template to an instance group.
- B. Create an instance template for the instances. Set 'Automatic Restart' to off. Set 'On-host maintenance' to `Terminate VM instances`. Add the instance template to an instance group.
- C. Create an instance group for the instances. Set the 'Autohealing' health check to `healthy (HTTP)`.
- D. Create an instance group for the instance. Verify that the 'Advanced creation options' setting for 'do not retry machine creation' is set to off.

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 31

You have production and test workloads that you want to deploy on Compute Engine. Production VMs need to be in a different subnet than the test VMs. All the VMs must be able to reach each other over Internal IP without creating additional routes. You need to set up VPC and the 2 subnets. Which configuration meets these requirements?

- A. Create a single custom VPC with 2 subnets. Create each subnet in a different region and with a different CIDR range.
- B. Create a single custom VPC with 2 subnets. Create each subnet in the same region and with the same CIDR range.
- C. Create 2 custom VPCs, each with a single subnet. Create each subnet in a different region and with a different CIDR range.
- D. Create 2 custom VPCs, each with a single subnet. Create each subnet in the same region and with the same CIDR range.

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

QUESTION 32

Your company has a Google Cloud Platform project that uses BigQuery for data warehousing. Your data science team changes frequently and has few members. You need to allow members of this team to perform queries. You want to follow Google-recommended practices. What should you do?

- A. 1. Create an IAM entry for each data scientist's user account.
2. Assign the BigQuery jobUser role to the group.
- B. 1. Create an IAM entry for each data scientist's user account.
2. Assign the BigQuery dataViewer user role to the group.
- C. 1. Create a dedicated Google group in Cloud Identity.
2. Add each data scientist's user account to the group.
3. Assign the BigQuery jobUser role to the group.
- D. 1. Create a dedicated Google group in Cloud Identity.
2. Add each data scientist's user account to the group.
3. Assign the BigQuery dataViewer user role to the group.

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

Reference: <https://cloud.google.com/bigquery/docs/cloud-sql-federated-queries>

QUESTION 33

Your company has a 3-tier solution running on Compute Engine. The configuration of the current infrastructure is shown below.



Google Cloud Platform

VPC

Subnet Tier#1 10.0.1.0/24



Instance Tier 1
Compute Engine

Subnet Tier#2 10.0.2.0/24



Instance Tier 2
Compute Engine

Subnet Tier#3 10.0.3.0/24



Instance Tier 3
Compute Engine

Each tier has a service account that is associated with all instances within it. You need to enable communication on TCP port 8080 between tiers as follows:

- Instances in tier #1 must communicate with tier #2.
- Instances in tier #2 must communicate with tier #3.

What should you do?

A. 1. Create an ingress firewall rule with the following settings:

- Targets: all instances
- Source filter: IP ranges (with the range set to 10.0.2.0/24)
- Protocols: allow all

2. Create an ingress firewall rule with the following settings:
 - Targets: all instances
 - Source filter: IP ranges (with the range set to 10.0.1.0/24)
 - Protocols: allow all
- B. 1. Create an ingress firewall rule with the following settings:
 - Targets: all instances with tier #2 service account
 - Source filter: all instances with tier #1 service account
 - Protocols: allow TCP:8080
 2. Create an ingress firewall rule with the following settings:
 - Targets: all instances with tier #3 service account
 - Source filter: all instances with tier #2 service account
 - Protocols: allow TCP: 8080
- C. 1. Create an ingress firewall rule with the following settings:
 - Targets: all instances with tier #2 service account
 - Source filter: all instances with tier #1 service account
 - Protocols: allow all
 2. Create an ingress firewall rule with the following settings:
 - Targets: all instances with tier #3 service account
 - Source filter: all instances with tier #2 service account
 - Protocols: allow all
- D. 1. Create an egress firewall rule with the following settings:
 - Targets: all instances
 - Source filter: IP ranges (with the range set to 10.0.2.0/24)
 - Protocols: allow TCP: 8080
 2. Create an egress firewall rule with the following settings:
 - Targets: all instances
 - Source filter: IP ranges (with the range set to 10.0.1.0/24)
 - Protocols: allow TCP: 8080

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 34

You are given a project with a single virtual private cloud (VPC) and a single subnetwork in the us-central1 region. There is a Compute Engine instance hosting an application in this subnetwork. You need to deploy a new instance in the same project in the europe-west1 region. This new instance needs access to the application. You want to follow Google-recommended practices. What should you do?

- A. 1. Create a subnetwork in the same VPC, in europe-west1.
2. Create the new instance in the new subnetwork and use the first instance's private address as the endpoint.
- B. 1. Create a VPC and a subnetwork in europe-west1.
2. Expose the application with an internal load balancer.
3. Create the new instance in the new subnetwork and use the load balancer's address as the endpoint.
- C. 1. Create a subnetwork in the same VPC, in europe-west1.
2. Use Cloud VPN to connect the two subnetworks.
3. Create the new instance in the new subnetwork and use the first instance's private address as the

endpoint.

- D. 1. Create a VPC and a subnetwork in europe-west1.
2. Peer the 2 VPCs.
3. Create the new instance in the new subnetwork and use the first instance's private address as the endpoint.

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

QUESTION 35

You have a website hosted on App Engine standard environment. You want 1% of your users to see a new test version of the website. You want to minimize complexity. What should you do?

- A. Deploy the new version in the same application and use the `--migrate` option.
- B. Deploy the new version in the same application and use the `--splits` option to give a weight of 99 to the current version and a weight of 1 to the new version.
- C. Create a new App Engine application in the same project. Deploy the new version in that application. Use the App Engine library to proxy 1% of the requests to the new version.
- D. Create a new App Engine application in the same project. Deploy the new version in that application. Configure your network load balancer to send 1% of the traffic to that new application.

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 36

You have a web application deployed as a managed instance group. You have a new version of the application to gradually deploy. Your web application is currently receiving live web traffic. You want to ensure that the available capacity does not decrease during the deployment. What should you do?

- A. Perform a `rolling-action start-update` with `maxSurge` set to 0 and `maxUnavailable` set to 1.
- B. Perform a `rolling-action start-update` with `maxSurge` set to 1 and `maxUnavailable` set to 0.
- C. Create a new managed instance group with an updated instance template. Add the group to the backend service for the load balancer. When all instances in the new managed instance group are healthy, delete the old managed instance group.
- D. Create a new instance template with the new application version. Update the existing managed instance group with the new instance template. Delete the instances in the managed instance group to allow the managed instance group to recreate the instance using the new instance template.

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 37

You have an application running in Google Kubernetes Engine (GKE) with cluster autoscaling enabled. The application exposes a TCP endpoint. There are several replicas of this application. You have a Compute

Engine instance in the same region, but in another Virtual Private Cloud (VPC), called `gce-network`, that has no overlapping IP ranges with the first VPC. This instance needs to connect to the application on GKE. You want to minimize effort. What should you do?

- A. 1. In GKE, create a `Service` of type `LoadBalancer` that uses the application's Pods as backend.
2. Set the service's `externalTrafficPolicy` to `Cluster`.
3. Configure the Compute Engine instance to use the address of the load balancer that has been created.
- B. 1. In GKE, create a `Service` of type `NodePort` that uses the application's Pods as backend.
2. Create a Compute Engine instance called `proxy` with 2 network interfaces, one in each VPC.
3. Use iptables on this instance to forward traffic from `gce-network` to the GKE nodes.
4. Configure the Compute Engine instance to use the address of `proxy` in `gce-network` as endpoint.
- C. 1. In GKE, create a `Service` of type `LoadBalancer` that uses the application's Pods as backend.
2. Add an annotation to this service: `cloud.google.com/load-balancer-type: Internal`
3. Peer the two VPCs together.
4. Configure the Compute Engine instance to use the address of the load balancer that has been created.
- D. 1. In GKE, create a `Service` of type `LoadBalancer` that uses the application's Pods as backend.
2. Add a Cloud Armor Security Policy to the load balancer that whitelists the internal IPs of the MIG's instances.
3. Configure the Compute Engine instance to use the address of the load balancer that has been created.

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

QUESTION 38

Your organization is a financial company that needs to store audit log files for 3 years. Your organization has hundreds of Google Cloud projects. You need to implement a cost-effective approach for log file retention. What should you do?

- A. Create an export to the sink that saves logs from Cloud Audit to BigQuery.
- B. Create an export to the sink that saves logs from Cloud Audit to a Coldline Storage bucket.
- C. Write a custom script that uses logging API to copy the logs from Stackdriver logs to BigQuery.
- D. Export these logs to Cloud Pub/Sub and write a Cloud Dataflow pipeline to store logs to Cloud SQL.

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

Reference: <https://cloud.google.com/logging/docs/audit/>

QUESTION 39

You want to deploy an application on Cloud Run that processes messages from a Cloud Pub/Sub topic. You want to follow Google-recommended practices. What should you do?

- A. 1. Create a Cloud Function that uses a Cloud Pub/Sub trigger on that topic.
2. Call your application on Cloud Run from the Cloud Function for every message.
- B. 1. Grant the Pub/Sub Subscriber role to the service account used by Cloud Run.
2. Create a Cloud Pub/Sub subscription for that topic.
3. Make your application pull messages from that subscription.
- C. 1. Create a service account.
2. Give the Cloud Run Invoker role to that service account for your Cloud Run application.
3. Create a Cloud Pub/Sub subscription that uses that service account and uses your Cloud Run application

as the push endpoint.

- D. 1. Deploy your application on Cloud Run on GKE with the connectivity set to Internal.
2. Create a Cloud Pub/Sub subscription for that topic.
3. In the same Google Kubernetes Engine cluster as your application, deploy a container that takes the messages and sends them to your application.

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

QUESTION 40

You need to deploy an application, which is packaged in a container image, in a new project. The application exposes an HTTP endpoint and receives very few requests per day. You want to minimize costs. What should you do?

- A. Deploy the container on Cloud Run.
B. Deploy the container on Cloud Run on GKE.
C. Deploy the container on App Engine Flexible.
D. Deploy the container on Google Kubernetes Engine, with cluster autoscaling and horizontal pod autoscaling enabled.

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 41

Your company has an existing GCP organization with hundreds of projects and a billing account. Your company recently acquired another company that also has hundreds of projects and its own billing account. You would like to consolidate all GCP costs of both GCP organizations onto a single invoice. You would like to consolidate all costs as of tomorrow. What should you do?

- A. Link the acquired company's projects to your company's billing account.
B. Configure the acquired company's billing account and your company's billing account to export the billing data into the same BigQuery dataset.
C. Migrate the acquired company's projects into your company's GCP organization. Link the migrated projects to your company's billing account.
D. Create a new GCP organization and a new billing account. Migrate the acquired company's projects and your company's projects into the new GCP organization and link the projects to the new billing account.

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

Reference: <https://cloud.google.com/resource-manager/docs/migrating-projects-billing>

QUESTION 42

You built an application on Google Cloud Platform that uses Cloud Spanner. Your support team needs to monitor the environment but should not have access to table data. You need a streamlined solution to grant the correct permissions to your support team, and you want to follow Google-recommended practices. What should you do?

- A. Add the support team group to the roles/monitoring.viewer role
- B. Add the support team group to the roles/spanner.databaseUser role.
- C. Add the support team group to the roles/spanner.databaseReader role.
- D. Add the support team group to the roles/stackdriver.accounts.viewer role.

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 43

For analysis purposes, you need to send all the logs from all of your Compute Engine instances to a BigQuery dataset called `platform-logs`. You have already installed the Stackdriver Logging agent on all the instances. You want to minimize cost. What should you do?

- A. 1. Give the BigQuery Data Editor role on the `platform-logs` dataset to the service accounts used by your instances.
2. Update your instances' metadata to add the following value: `logs-destination: bq://platform-logs`.
- B. 1. In Stackdriver Logging, create a logs export with a Cloud Pub/Sub topic called `logs` as a sink.
2. Create a Cloud Function that is triggered by messages in the `logs` topic.
3. Configure that Cloud Function to drop logs that are not from Compute Engine and to insert Compute Engine logs in the `platform-logs` dataset.
- C. 1. In Stackdriver Logging, create a filter to view only Compute Engine logs.
2. Click Create Export.
3. Choose BigQuery as Sink Service, and the `platform-logs` dataset as Sink Destination.
- D. 1. Create a Cloud Function that has the BigQuery User role on the `platform-logs` dataset.
2. Configure this Cloud Function to create a BigQuery Job that executes this query:

```
INSERT INTO dataset.platform-logs (timestamp, log)
SELECT timestamp, log FROM compute.logs
WHERE timestamp > DATE_SUB(CURRENT_DATE(), INTERVAL 1 DAY)
```

- 3. Use Cloud Scheduler to trigger this Cloud Function once a day.

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 44

You are using Deployment Manager to create a Google Kubernetes Engine cluster. Using the same Deployment Manager deployment, you also want to create a DaemonSet in the `kube-system` namespace of the cluster. You want a solution that uses the fewest possible services. What should you do?

- A. Add the cluster's API as a new Type Provider in Deployment Manager, and use the new type to create the DaemonSet.
- B. Use the Deployment Manager Runtime Configurator to create a new Config resource that contains the DaemonSet definition.
- C. With Deployment Manager, create a Compute Engine instance with a startup script that uses `kubectl` to create the DaemonSet.

- D. In the cluster's definition in Deployment Manager, add a metadata that has `kube-system` as key and the DaemonSet manifest as value.

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

Reference: <https://cloud.google.com/kubernetes-engine/docs/how-to/cluster-access-for-kubectl>

QUESTION 45

You are building an application that will run in your data center. The application will use Google Cloud Platform (GCP) services like AutoML. You created a service account that has appropriate access to AutoML. You need to enable authentication to the APIs from your on-premises environment. What should you do?

- A. Use service account credentials in your on-premises application.
- B. Use `gcloud` to create a key file for the service account that has appropriate permissions.
- C. Set up direct interconnect between your data center and Google Cloud Platform to enable authentication for your on-premises applications.
- D. Go to the IAM & admin console, grant a user account permissions similar to the service account permissions, and use this user account for authentication from your data center.

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Reference: <https://cloud.google.com/vision/automl/docs/before-you-begin>

QUESTION 46

You deployed a new application inside your Google Kubernetes Engine cluster using the YAML file specified below.

```

apiVersion: apps/v1
kind: Deployment
metadata:
  name: myapp-deployment
spec:
  selector:
    matchLabels:
      app: myapp
  replicas: 2
  template:
    metadata:
      labels:
        app: myapp
    spec:
      containers:
        - name: myapp
          image: myapp:1.1
          ports:
            - containerPort: 80

```

```

apiVersion: v1
kind: Service
metadata:
  name: myapp-service
spec:
  ports:
    - port: 8000
      targetPort: 80
      protocol: TCP
  selector:
    app: myapp

```

You check the status of the deployed pods and notice that one of them is still in PENDING status:

```
kubectl get pods -l app=myapp
```

NAME	READY	STATUS	RESTART	AGE
myapp-deployment-58ddbbb995-lp86m	0/1	Pending	0	9m
myapp-deployment-58ddbbb995-qjpkg	1/1	Running	0	9m

You want to find out why the pod is stuck in pending status. What should you do?

- A. Review details of the myapp-service Service object and check for error messages.
- B. Review details of the myapp-deployment Deployment object and check for error messages.
- C. Review details of myapp-deployment-58ddbbb995-lp86m Pod and check for warning messages.
- D. View logs of the container in myapp-deployment-58ddbbb995-lp86m pod and check for warning messages.

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

Reference: <https://cloud.google.com/run/docs/gke/troubleshooting>

QUESTION 47

You are setting up a Windows VM on Compute Engine and want to make sure you can log in to the VM via RDP. What should you do?

- A. After the VM has been created, use your Google Account credentials to log in into the VM.
- B. After the VM has been created, use `gcloud compute reset-windows-password` to retrieve the login credentials for the VM.
- C. When creating the VM, add metadata to the instance using 'windows-password' as the key and a password as the value.
- D. After the VM has been created, download the JSON private key for the default Compute Engine service account. Use the credentials in the JSON file to log in to the VM.

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

QUESTION 48

You want to configure an SSH connection to a single Compute Engine instance for users in the dev1 group. This instance is the only resource in this particular Google Cloud Platform project that the dev1 users should be able to connect to. What should you do?

- A. Set metadata to `enable-oslogin=true` for the instance. Grant the dev1 group the `compute.osLogin` role. Direct them to use the Cloud Shell to ssh to that instance.
- B. Set metadata to `enable-oslogin=true` for the instance. Set the service account to `no service account` for that instance. Direct them to use the Cloud Shell to ssh to that instance.
- C. Enable `block project wide keys` for the instance. Generate an SSH key for each user in the dev1 group. Distribute the keys to dev1 users and direct them to use their third-party tools to connect.
- D. Enable `block project wide keys` for the instance. Generate an SSH key and associate the key with that instance. Distribute the key to dev1 users and direct them to use their third-party tools to connect.

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

Reference: <https://cloud.google.com/compute/docs/instances/adding-removing-ssh-keys>

QUESTION 49

You need to produce a list of the enabled Google Cloud Platform APIs for a GCP project using the `gcloud` command line in the Cloud Shell. The project name is `my-project`. What should you do?

- A. Run `gcloud projects list` to get the project ID, and then run `gcloud services list --project <project ID>`.
- B. Run `gcloud init` to set the current project to `my-project`, and then run `gcloud services list --available`.
- C. Run `gcloud info` to view the account value, and then run `gcloud services list --account <Account>`.
- D. Run `gcloud projects describe <project ID>` to verify the project value, and then run `gcloud services list --available`.

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

QUESTION 50

You are using Google Kubernetes Engine with autoscaling enabled to host a new application. You want to expose this new application to the public, using HTTPS on a public IP address. What should you do?

- A. Create a Kubernetes Service of type NodePort for your application, and a Kubernetes Ingress to expose this Service via a Cloud Load Balancer.
- B. Create a Kubernetes Service of type ClusterIP for your application. Configure the public DNS name of your application using the IP of this Service.
- C. Create a Kubernetes Service of type NodePort to expose the application on port 443 of each node of the Kubernetes cluster. Configure the public DNS name of your application with the IP of every node of the cluster to achieve load-balancing.
- D. Create a HAProxy pod in the cluster to load-balance the traffic to all the pods of the application. Forward the public traffic to HAProxy with an iptable rule. Configure the DNS name of your application using the public IP of the node HAProxy is running on.

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

Reference: <https://cloud.google.com/kubernetes-engine/docs/tutorials/http-balancer>

QUESTION 51

You need to enable traffic between multiple groups of Compute Engine instances that are currently running two different GCP projects. Each group of Compute Engine instances is running in its own VPC. What should you do?

- A. Verify that both projects are in a GCP Organization. Create a new VPC and add all instances.
- B. Verify that both projects are in a GCP Organization. Share the VPC from one project and request that the Compute Engine instances in the other project use this shared VPC.
- C. Verify that you are the Project Administrator of both projects. Create two new VPCs and add all instances.
- D. Verify that you are the Project Administrator of both projects. Create a new VPC and add all instances.

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 52

You are operating a Google Kubernetes Engine (GKE) cluster for your company where different teams can run non-production workloads. Your Machine Learning (ML) team needs access to Nvidia Tesla P100 GPUs to train their models. You want to minimize effort and cost. What should you do?

- A. Ask your ML team to add the `accelerator: gpu` annotation to their pod specification.
- B. Recreate all the nodes of the GKE cluster to enable GPUs on all of them.
- C. Create your own Kubernetes cluster on top of Compute Engine with nodes that have GPUs. Dedicate this cluster to your ML team.
- D. Add a new, GPU-enabled, node pool to the GKE cluster. Ask your ML team to add the `cloud.google.com/gke -accelerator: nvidia-tesla-p100 nodeSelector` to their pod specification.

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 53

Your VMs are running in a subnet that has a subnet mask of 255.255.255.240. The current subnet has no more free IP addresses and you require an additional 10 IP addresses for new VMs. The existing and new VMs should all be able to reach each other without additional routes. What should you do?

- A. Use gcloud to expand the IP range of the current subnet.
- B. Delete the subnet, and recreate it using a wider range of IP addresses.
- C. Create a new project. Use Shared VPC to share the current network with the new project.
- D. Create a new subnet with the same starting IP but a wider range to overwrite the current subnet.

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 54

Your organization uses G Suite for communication and collaboration. All users in your organization have a G Suite account. You want to grant some G Suite users access to your Cloud Platform project. What should you do?

- A. Enable Cloud Identity in the GCP Console for your domain.
- B. Grant them the required IAM roles using their G Suite email address.
- C. Create a CSV sheet with all users' email addresses. Use the gcloud command line tool to convert them into Google Cloud Platform accounts.
- D. In the G Suite console, add the users to a special group called `cloud-console-users@yourdomain.com`. Rely on the default behavior of the Cloud Platform to grant users access if they are members of this group.

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

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

QUESTION 55

You have a large 5-TB AVRO file stored in a Cloud Storage bucket. Your analysts are proficient only in SQL and need access to the data stored in this file. You want to find a cost-effective way to complete their request as soon as possible. What should you do?

- A. Load data in Cloud Datastore and run a SQL query against it.
- B. Create a BigQuery table and load data in BigQuery. Run a SQL query on this table and drop this table after you complete your request.
- C. Create external tables in BigQuery that point to Cloud Storage buckets and run a SQL query on these external tables to complete your request.
- D. Create a Hadoop cluster and copy the AVRO file to NDfs by compressing it. Load the file in a hive table and provide access to your analysts so that they can run SQL queries.

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 56

You deployed an LDAP server on Compute Engine that is reachable via TLS through port 636 using UDP. You want to make sure it is reachable by clients over that port. What should you do?

- A. Add the network tag `allow-udp-636` to the VM instance running the LDAP server.
- B. Create a route called `allow-udp-636` and set the next hop to be the VM instance running the LDAP server.
- C. Add a network tag of your choice to the instance. Create a firewall rule to allow ingress on UDP port 636 for that network tag.
- D. Add a network tag of your choice to the instance running the LDAP server. Create a firewall rule to allow egress on UDP port 636 for that network tag.

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 57

You are migrating a production-critical on-premises application that requires 96 vCPUs to perform its task. You want to make sure the application runs in a similar environment on GCP. What should you do?

- A. When creating the VM, use machine type `n1-standard-96`.
- B. When creating the VM, use Intel Skylake as the CPU platform.
- C. Create the VM using Compute Engine default settings. Use `gcloud` to modify the running instance to have 96 vCPUs.
- D. Start the VM using Compute Engine default settings, and adjust as you go based on Rightsizing Recommendations.

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 58

You want to configure a solution for archiving data in a Cloud Storage bucket. The solution must be cost-effective. Data with multiple versions should be archived after 30 days. Previous versions are accessed once a month for reporting. This archive data is also occasionally updated at month-end. What should you do?

- A. Add a bucket lifecycle rule that archives data with newer versions after 30 days to Coldline Storage.
- B. Add a bucket lifecycle rule that archives data with newer versions after 30 days to Nearline Storage.
- C. Add a bucket lifecycle rule that archives data from regional storage after 30 days to Coldline Storage.
- D. Add a bucket lifecycle rule that archives data from regional storage after 30 days to Nearline Storage.

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Reference: <https://cloud.google.com/storage/docs/managing-lifecycles>

QUESTION 59

You want to select and configure a solution for storing and archiving data on Google Cloud Platform. You need to support compliance objectives for data from one geographic location. This data is archived after 30 days and needs to be accessed annually. What should you do?

- A. Select Multi-Regional Storage. Add a bucket lifecycle rule that archives data after 30 days to Coldline Storage.
- B. Select Multi-Regional Storage. Add a bucket lifecycle rule that archives data after 30 days to Nearline Storage.
- C. Select Regional Storage. Add a bucket lifecycle rule that archives data after 30 days to Nearline Storage.
- D. Select Regional Storage. Add a bucket lifecycle rule that archives data after 30 days to Coldline Storage.

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 60

You want to find out when users were added to Cloud Spanner Identity Access Management (IAM) roles on your Google Cloud Platform (GCP) project. What should you do in the GCP Console?

- A. Open the Cloud Spanner console to review configurations.
- B. Open the IAM & admin console to review IAM policies for Cloud Spanner roles.
- C. Go to the Stackdriver Monitoring console and review information for Cloud Spanner.
- D. Go to the Stackdriver Logging console, review admin activity logs, and filter them for Cloud Spanner IAM roles.

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 61

Your customer has implemented a solution that uses Cloud Spanner and notices some read latency-related performance issues on one table. This table is accessed only by their users using a primary key. The table schema is shown below.

```
CREATE TABLE Persons (  
    person_id INT64 NOT NULL,      // sequential number based on number of registration  
    account_creation_date DATE,    // system date  
    birthdate DATE,               // customer birthdate  
    firstname STRING (255),       // first name  
    lastname STRING (255),        // last name  
    profile_picture BYTES (255)   // profile picture  
) PRIMARY KEY (person_id)
```

You want to resolve the issue. What should you do?

- A. Remove the profile_picture field from the table.
- B. Add a secondary index on the person_id column.
- C. Change the primary key to not have monotonically increasing values.
- D. Create a secondary index using the following Data Definition Language (DDL):

```
CREATE INDEX person_id_ix
ON Persons (
    person_id,
    firstname,
    lastname
) STORING (
    profile_picture
)
```

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

QUESTION 62

Your organization needs to grant users access to query datasets in BigQuery but prevent them from accidentally deleting the datasets. You want a solution that follows Google-recommended practices. What should you do?

- A. Add users to roles/bigquery user role only, instead of roles/bigquery dataOwner.
- B. Add users to roles/bigquery dataEditor role only, instead of roles/bigquery dataOwner.
- C. Create a custom role by removing delete permissions, and add users to that role only.
- D. Create a custom role by removing delete permissions. Add users to the group, and then add the group to the custom role.

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 63

Your company set up a complex organizational structure on Google Cloud Platform. The structure includes hundreds of folders and projects. Only a few team members should be able to view the hierarchical structure. You need to assign minimum permissions to these team members and you want to follow Google-recommended practices. What should you do?

- A. Add the users to roles/browser role.
- B. Add the users to roles/iam.roleViewer role.
- C. Add the users to a group, and add this group to roles/browser role.
- D. Add the users to a group, and add this group to roles/iam.roleViewer role.

Correct Answer: A

Section: (none)
Explanation

Explanation/Reference: