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Question #1*Topic 1*

Every employee of your company has a Google account. Your operational team needs to manage a large number of instances on Compute Engine. Each member of this team needs only administrative access to the servers. Your security team wants to ensure that the deployment of credentials is operationally efficient and must be able to determine who accessed a given instance. What should you do?

* A. Generate a new SSH key pair. Give the private key to each member of your team. Configure the public key in the metadata of each instance.
* B. Ask each member of the team to generate a new SSH key pair and to send you their public key. Use a configuration management tool to deploy those keys on each instance.
* C. Ask each member of the team to generate a new SSH key pair and to add the public key to their Google account. Grant the ג€compute.osAdminLoginג€ role to the Google group corresponding to this team.
* D. Generate a new SSH key pair. Give the private key to each member of your team. Configure the public key as a project-wide public SSH key in your Cloud Platform project and allow project-wide public SSH keys on each instance.

Sol: C is correct - <https://cloud.google.com/compute/docs/instances/managing-instance-access>

Question #2*Topic 1*

You need to create a custom VPC with a single subnet. The subnet's range must be as large as possible. Which range should you use?

* A. 0.0.0.0/0
* B. 10.0.0.0/8
* C. 172.16.0.0/12
* D. 192.168.0.0/16

B is correct. Pay attention to the question, is talking about custom VPC subnet and is not mentioning you will use automatic subnet mode creation. If you set subnet to custom, the minimum size is /8.

Use 10.0.0.0/8 CIDR range. is the right answer. The private network range is defined by IETF (Ref: https://tools.ietf.org/html/rfc1918) and adhered to by all cloud providers. The supported internal IP Address ranges are 1. 24-bit block 10.0.0.0/8 (16777216 IP Addresses) 2. 20-bit block 172.16.0.0/12 (1048576 IP Addresses) 3. 16-bit block 192.168.0.0/16 (65536 IP Addresses) 10.0.0.0/8 gives you the most extensive range - 16777216 IP Addresses

Question #3*Topic 1*

You want to select and configure a cost-effective solution for relational data on Google Cloud Platform. You are working with a small set of operational data in one geographic location. You need to support point-in-time recovery. What should you do?

* A. Select Cloud SQL (MySQL). Verify that the enable binary logging option is selected.
* B. Select Cloud SQL (MySQL). Select the create failover replicas option.
* C. Select Cloud Spanner. Set up your instance with 2 nodes.
* D. Select Cloud Spanner. Set up your instance as multi-regional.

A is Correct. You must enable binary logging to use point-in-time recovery. Enabling binary logging causes a slight reduction in write performance. <https://cloud.google.com/sql/docs/mysql/backup-recovery/backups>

Question #4 *Topic 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.

C, Agreed reference : https://cloud.google.com/compute/docs/tutorials/high-availability-autohealing Pro Tip: Use separate health checks for load balancing and for autohealing. Health checks for load balancing detect unresponsive instances and direct traffic away from them. Health checks for autohealing detect and recreate failed instances, so they should be less aggressive than load balancing health checks. Using the same health check for these services would remove the distinction between unresponsive instances and failed instances, causing unnecessary latency and unavailability for your users.

Question #5 *Topic 1*

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.

D is correct

kubectl config view -o jsonpath='{.users[].name}' # display the first user

kubectl config view -o jsonpath='{.users[\*].name}' # get a list of users

kubectl config get-contexts # display list of contexts

kubectl config current-context # display the current-context

kubectl config use-context my-cluster-name # set the default context to my-cluster-name <https://kubernetes.io/docs/reference/kubectl/cheatsheet/>

Answer A: Using `gcloud config configurations described` will only show you the details of the current configuration, not the Kubernetes Engine cluster of an inactive configuration.

Answer B: Using `gcloud config configurations activate` and `gcloud config list` to review the output will only show you the list of configurations and activate one of them, but it won't provide you with the details of the Kubernetes Engine cluster of an inactive configuration.

Answer C: Using `kubectl config get-contexts` will only list the available contexts, including their clusters, but it won't provide you with the details of the Kubernetes Engine cluster of an inactive configuration.

Question #6*Topic 1*

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

there's some disagreement in the comments about this one. Going through some links about cloud storage I found this: Cloud Storage Coldline: a low-latency storage class for long-term archiving Coldline is a new Cloud Storage class designed for long-term archival and disaster recovery. Coldline is perfect for the archival needs of big data or multimedia content, allowing businesses to archive years of data. Coldline provides fast and instant (millisecond) access to data and changes the way that companies think about storing and accessing their cold data. Based on this, D is correct. Refer to this link for more information: https://cloud.google.com/blog/products/gcp/introducing-coldline-and-a-unified-platform-for-data-storage it explains the functions of each one of the options (Multi-regional, Regional, Nearline and Coldline)

Question #7*Topic 1*

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 Manage and move all projects to the root Organizarion.
* D. In the Google Cloud Platform Console, create a new billing account and set up a payment method.

D is correct

Option A is incorrect because you cannot request a corporate billing account by emailing cloud-billing@google.com. This email address is for general billing inquiries and support. Option B is incorrect because you cannot create a ticket with Google Support to share your credit card details over the phone. To set up a payment method for a billing account, you must do it through the Google Cloud Platform Console. Option C is incorrect because moving projects to the root organization will not create a new billing account. You must first create a new billing account and then move the projects to the root organization to ensure that they are all billed to the same billing account. Therefore, the correct answer is Option D. <https://cloud.google.com/billing/docs/how-to/manage-billing-account#create_a_new_billing_account>

Question #8*Topic 1*

You have an application that looks for its licensing server on the IP 10.0.3.21. You need to deploy the licensing server on Compute Engine. You do not want to change the configuration of the application and want the application to be able to reach the licensing server. What should you do?

* A. Reserve the IP 10.0.3.21 as a static internal IP address using gcloud and assign it to the licensing server.
* B. Reserve the IP 10.0.3.21 as a static public IP address using gcloud and assign it to the licensing server.
* C. Use the IP 10.0.3.21 as a custom ephemeral IP address and assign it to the licensing server.
* D. Start the licensing server with an automatic ephemeral IP address, and then promote it to a static internal IP address.

**Correct Answer:** *A*

Question #9*Topic 1*

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.

D is correct. App Engine supports the following scaling types, which controls how and when instances are created: Automatic Basic Manual You specify the scaling type in your app's app.yaml. Automatic scaling Automatic scaling creates instances based on request rate, response latencies, and other application metrics. You can specify thresholds for each of these metrics, as well as a minimum number instances to keep running at all times.

Question #10*Topic 1*

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 is A

Question #11*Topic 1*

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

The correct answer is Option A - Deployment Manager. Deployment Manager is a configuration management tool that allows you to define and deploy a set of resources, including Compute Engine VMs, in a declarative manner. You can use it to specify the exact specifications of your VMs in a configuration file, and Deployment Manager will create and manage those VMs for you. Deployment Manager is recommended by Google as a way to automate and manage the deployment of resources on the Google Cloud Platform. <https://cloud.google.com/deployment-manager/docs/>

Question #12*Topic 1*

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.

The correct answer is Option C. To deploy a Docker container on Kubernetes Engine, you should first create a Docker image from the Dockerfile and push it to Container Registry, which is a fully-managed Docker container registry that makes it easy for you to store, manage, and deploy Docker container images. Then, you can create a Deployment YAML file that specifies the image to use and other desired deployment options, and use the kubectl command-line tool to create the deployment based on the YAML file. Option A is incorrect because kubectl app deploy is not a valid command. Option B is incorrect because gcloud app deploy is used to deploy applications to App Engine, not Kubernetes Engine. Option D is incorrect because it involves storing the image in Cloud Storage rather than Container Registry. https://cloud.google.com/kubernetes-engine/docs/how-to/deploying-a-container

Question #13*Topic 1*

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.

D is correct

Question #14*Topic 1*

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>

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

Question #15*Topic 1*

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 Answers is (B): On-demand pricing Under on-demand pricing, BigQuery charges for queries by using one metric: the number of bytes processed (also referred to as bytes read). You are charged for the number of bytes processed whether the data is stored in BigQuery or in an external data source such as Cloud Storage, Drive, or Cloud Bigtable. On-demand pricing is based solely on usage. <https://cloud.google.com/bigquery/pricing#on_demand_pricing>

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

Question #16*Topic 1*

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.

I'll take a simple and logical approach for answering this. Let's first break down the question into key requirements - 1. automatically scale the application based on underlying infrastructure CPU usage. 2. use virtual machines directly. A. Not feasible because VMs are not used directly here. **B. This is the correct answer**. C. Time of Day... Easy elimination because this does not scale on CPU usage and time of day is mentioned NOWHERE. D. Third Party Tools.... Nobody would use GCP if they needed third party tools to do something as simple as scaling based on CPU usage. all popular cloud providers have native solutions for this including GCP.

Question #17*Topic 1*

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.

Solving this by first eliminating the options that don't suit us. By breaking down the question into the key requirements- 1. Analyzing Google Cloud Platform service costs from three separate projects. 2. Using standard query syntax. -> (Relational data and SQL) A. 'Cloud Storage bucket'........'Cloud Bigtable'. Not feasible, mainly because cloud BigTable is not good for Structured Data (or Relational Data on which we can run SQL queries as per the question's requirements). BigTable is better suited for Semi Structured data and NoSQL data. B. 'Cloud Storage bucket'.....'Google Sheets'. Not Feasible because there is no use of SQL in this option, which is one of the requirements. C. Local file, external tools... this is automatically eliminated because the operation we need is simple, and there has to be a GCP native solution for this. We shouldn't need to rely on going out of the cloud for such a simple thing. **D. 'BigQuery'.....'SQL queries' -> This is the right answer**.

Question #18*Topic 1*

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 ג€" 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 is B. You only re-calculate expiry date when objects are re-written using re-write option to another storage class in which case creation date is rest. But in this case objects is moveed to Coldline class after 90 days and then we want to delete the object after 365 days.

Question #20*Topic 1*

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.

I would say B is correct. RDP is enabled by default when you crate a Windows instance (no need to chek on it). Just make sure you install an RDP client ( chrome ext or RDP) and set windows password.

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

Question #21*Topic 1*

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 is A as you can create different configurations for each account and create compute instances in each account by activating the respective account.Refer GCP documentation - Configurations Create &amp; Activate Options B, C &amp; D are wrong as gcloud config configurations list does not help create instances. It would only lists existing named configurations.

Question #22*Topic 1*

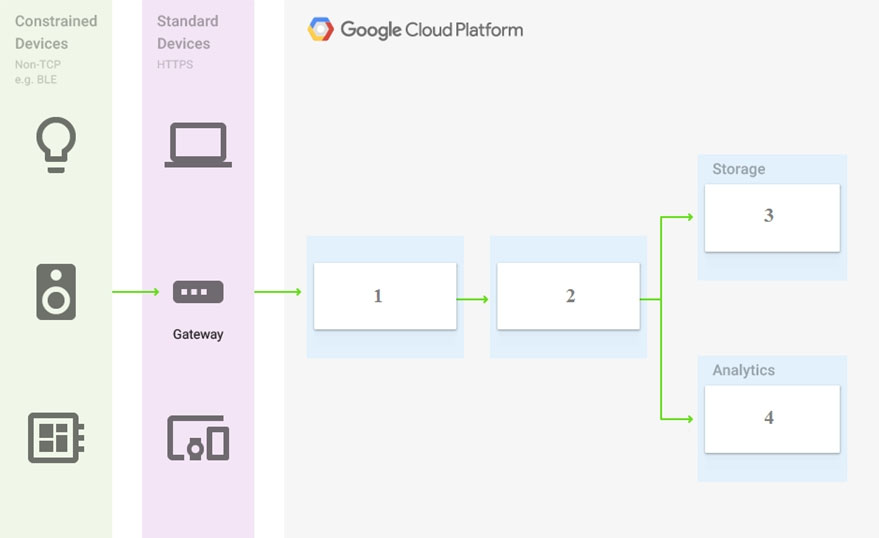
You significantly changed a complex Deployment Manager template and want to confirm that the dependencies of all defined resources are properly met before committing it to the project. You want the most rapid feedback on your changes. What should you do?

* A. Use granular logging statements within a Deployment Manager template authored in Python.
* B. Monitor activity of the Deployment Manager execution on the Stackdriver Logging page of the GCP Console.
* C. Execute the Deployment Manager template against a separate project with the same configuration, and monitor for failures.
* D. Execute the Deployment Manager template using the ג€"-preview option in the same project, and observe the state of interdependent resources.

Correct answer is D as Deployment Manager provides the preview feature to check on what resources would be created

<https://cloud.google.com/deployment-manager/docs/deployments/updating-deployments>

Question #23*Topic 1*

You are building a pipeline to process time-series data. Which Google Cloud Platform services should you put in boxes 1,2,3, and 4?  


* A. Cloud Pub/Sub, Cloud Dataflow, Cloud Datastore, BigQuery
* B. Firebase Messages, Cloud Pub/Sub, Cloud Spanner, BigQuery
* C. Cloud Pub/Sub, Cloud Storage, BigQuery, Cloud Bigtable
* D. Cloud Pub/Sub, Cloud Dataflow, Cloud Bigtable, BigQuery

Without a doubt D. Whenever we want to process timeseries data look for BigTable. Also you want to perform analystics in Box 4 ..look for BigQuery

<https://cloud.google.com/solutions/correlating-time-series-dataflow>

Question #24*Topic 1*

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 is A. Option B is wrong as the option to use gcloud app cp does not exist. Option C is wrong as Deployment Manager does not copy the application, but allows you to specify all the resources needed for your application in a declarative format using yaml Option D is wrong as gcloud app deploy would not create a new project. The project should be created before usage

Question #25*Topic 1*

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 is A. As per google best practices it is recommended to use predefined roles and create groups to control access to multiple users with same responsibility

Question #26*Topic 1*

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.

As per as the least privileage recommended by google, C is the correct Option, A is incorrect because the scope doesnt exist. B incorrect because it will give him full of control

Question #27*Topic 1*

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:** *B*

Question #28*Topic 1*

You are the project owner of a GCP project and want to delegate control to colleagues to manage buckets and files in Cloud Storage. You want to follow Google- recommended practices. Which IAM roles should you grant your colleagues?

* A. Project Editor
* B. Storage Admin
* C. Storage Object Admin
* D. Storage Object Creator

**Correct Answer:** *B*

Question #29*Topic 1*

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*

Question #30*Topic 1*

You are creating a Google Kubernetes Engine (GKE) cluster with a cluster autoscaler feature enabled. You need to make sure that each node of the cluster will run a monitoring pod that sends container metrics to a third-party monitoring solution. What should you do?

* A. Deploy the monitoring pod in a StatefulSet object.
* B. Deploy the monitoring pod in a DaemonSet object.
* C. Reference the monitoring pod in a Deployment object.
* D. Reference the monitoring pod in a cluster initializer at the GKE cluster creation time.

**Correct Answer:** *B*

Question #31*Topic 1*

You want to send and consume Cloud Pub/Sub messages from your App Engine application. The Cloud Pub/Sub API is currently disabled. You will use a service account to authenticate your application to the API. You want to make sure your application can use Cloud Pub/Sub. What should you do?

* A. Enable the Cloud Pub/Sub API in the API Library on the GCP Console.
* B. Rely on the automatic enablement of the Cloud Pub/Sub API when the Service Account accesses it.
* C. Use Deployment Manager to deploy your application. Rely on the automatic enablement of all APIs used by the application being deployed.
* D. Grant the App Engine Default service account the role of Cloud Pub/Sub Admin. Have your application enable the API on the first connection to Cloud Pub/ Sub.

**Correct Answer:** *A*

Question #32*Topic 1*

You need to monitor resources that are distributed over different projects in Google Cloud Platform. You want to consolidate reporting under the same Stackdriver  
Monitoring dashboard. What should you do?

* A. Use Shared VPC to connect all projects, and link Stackdriver to one of the projects.
* B. For each project, create a Stackdriver account. In each project, create a service account for that project and grant it the role of Stackdriver Account Editor in all other projects.
* C. Configure a single Stackdriver account, and link all projects to the same account.
* D. Configure a single Stackdriver account for one of the projects. In Stackdriver, create a Group and add the other project names as criteria for that Group.

First of all D is incorrect, Groups are used to define alerts on set of resources(such as VM instances, databases, and load balancers). FYI tried adding Two projects into a group it did not allowed me as the "AND"/"OR" criteria for the group failed with this combination of resources. C is correct because, When you intially click on Monitoring(Stackdriver Monitoring) it creates a workspac(a stackdriver account) linked to the ACTIVE(CURRENT) Project from which it was clicked. Now if you change the project and again click onto Monitoring it would create an another workspace(a stackdriver account) linked to the changed ACTIVE(CURRENT) Project, we don't want this as this would not consolidate our result into a single dashboard(workspace/stackdriver account). If you have accidently created two diff workspaces merge them under Monitoring > Settings > Merge Workspaces > MERGE. If we have only one workspace and two projects we can simply add other GCP Project under Monitoring > Settings > GCP Projects > Add GCP Projects. In both of these cases we did not create a GROUP, we just linked GCP Project to the workspace(stackdriver account).

Question #33*Topic 1*

You are deploying an application to a Compute Engine VM in a managed instance group. The application must be running at all times, but only a single instance of the VM should run per GCP project. How should you configure the instance group?

* A. Set autoscaling to On, set the minimum number of instances to 1, and then set the maximum number of instances to 1.
* B. Set autoscaling to Off, set the minimum number of instances to 1, and then set the maximum number of instances to 1.
* C. Set autoscaling to On, set the minimum number of instances to 1, and then set the maximum number of instances to 2.
* D. Set autoscaling to Off, set the minimum number of instances to 1, and then set the maximum number of instances to 2.

**Correct Answer:** *A*

Question #34*Topic 1*

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:** *C*

Question #35*Topic 1*

You need to create a new billing account and then link it with an existing Google Cloud Platform project. What should you do?

* A. Verify that you are Project Billing Manager for the GCP project. Update the existing project to link it to the existing billing account.
* B. Verify that you are Project Billing Manager for the GCP project. Create a new billing account and link the new billing account to the existing project.
* C. Verify that you are Billing Administrator for the billing account. Create a new project and link the new project to the existing billing account.
* D. Verify that you are Billing Administrator for the billing account. Update the existing project to link it to the existing billing account.

**Correct Answer:** *B*

Question #36*Topic 1*

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:**

Question #37*Topic 1*

You created a Google Cloud Platform project with an App Engine application inside the project. You initially configured the application to be served from the us- central region. Now you want the application to be served from the asia-northeast1 region. What should you do?

* A. Change the default region property setting in the existing GCP project to asia-northeast1.
* B. Change the region property setting in the existing App Engine application from us-central to asia-northeast1.
* C. Create a second App Engine application in the existing GCP project and specify asia-northeast1 as the region to serve your application.
* D. Create a new GCP project and create an App Engine application inside this new project. Specify asia-northeast1 as the region to serve your application.

Option D is correct, as there can be only one App Engine application inside a project . C is incorrect, as GCP can't have two app engine applications..

Question #38*Topic 1*

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.

Answer C is incorrect because the `roles/spanner.viewer` role only allows read-only access to Spanner instances, whereas the question asks for users to be able to view and edit table data. Answer D is also incorrect for the same reason as answer C. The `roles/spanner.viewer` role does not provide the necessary permissions for editing table data. Therefore, answers A and B are the only options that provide the `roles/spanner.databaseUser` role, which includes the necessary permissions to view and edit table data on a Cloud Spanner instance. **However, answer B is arguably better** since it involves creating a new group and adding the users to that group, which can simplify the management of permissions in the future.

Question #39*Topic 1*

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 ג€Container-Optimized OS (cos)ג€ as a node image for your GKE cluster.

**Correct Answer:** *B*

Question #40*Topic 1*

You have an instance group that you want to load balance. You want the load balancer to terminate the client SSL session. The instance group is used to serve a public web application over HTTPS. You want to follow Google-recommended practices. What should you do?

* A. Configure an HTTP(S) load balancer.
* B. Configure an internal TCP load balancer.
* C. Configure an external SSL proxy load balancer.
* D. Configure an external TCP proxy load balancer.

**Correct Answer:** *A* [🗳️](https://www.examtopics.com/exams/google/associate-cloud-engineer/view/10/)  
Reference:  
<https://cloud.google.com/load-balancing/docs/https/>

Question #41*Topic 1*

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*

Question #42*Topic 1*

You've deployed a microservice called myapp1 to a Google Kubernetes Engine cluster using the YAML file specified below:  
  
You need to refactor this configuration so that the database password is not stored in plain text. You want to follow Google-recommended practices. What should you do?

* A. Store the database password inside the Docker image of the container, not in the YAML file.
* B. Store the database password inside a Secret object. Modify the YAML file to populate the DB\_PASSWORD environment variable from the Secret.
* C. Store the database password inside a ConfigMap object. Modify the YAML file to populate the DB\_PASSWORD environment variable from the ConfigMap.
* D. Store the database password in a file inside a Kubernetes persistent volume, and use a persistent volume claim to mount the volume to the container.

**Correct Answer:** *C*

Question #43*Topic 1*

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 then 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*

Question #44*Topic 1*

You need to select and configure compute resources for a set of batch processing jobs. These jobs take around 2 hours to complete and are run nightly. You want to minimize service costs. What should you do?

* A. Select Google Kubernetes Engine. Use a single-node cluster with a small instance type.
* B. Select Google Kubernetes Engine. Use a three-node cluster with micro instance types.
* C. Select Compute Engine. Use preemptible VM instances of the appropriate standard machine type.
* D. Select Compute Engine. Use VM instance types that support micro bursting

**Correct Answer:** *C*

Question #45*Topic 1*

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 is C NOT D. Option A is wrong as gcloud app restore was used for backup and restore and has been deprecated.Option B is wrong as there is no application revert functionality available.Option D is wrong as App Engine maintains version and need not be redeployed.

Question #46*Topic 1*

You deployed an App Engine application using gcloud app deploy, but it did not deploy to the intended project. You want to find out why this happened and where the application deployed. What should you do?

* A. Check the app.yaml file for your application and check project settings.
* B. Check the web-application.xml file for your application and check project settings.
* C. Go to Deployment Manager and review settings for deployment of applications.
* D. Go to Cloud Shell and run gcloud config list to review the Google Cloud configuration used for deployment.

I would opt option D : as it would help to check the config details and Option A is not correct, as app.yaml would have only the runtime and script to run parameters and not the Project details

Option D - The config list will give the name of the project C:\GCP\appeng>gcloud config list [core] account = xxx@gmail.com disable\_usage\_reporting = False project = my-first-demo-xxxx

Question #47*Topic 1*

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:** *A*

Question #48*Topic 1*

You host a static website on Cloud Storage. Recently, you began to include links to PDF files on this site. Currently, when users click on the links to these PDF files, their browsers prompt them to save the file onto their local system. Instead, you want the clicked PDF files to be displayed within the browser window directly, without prompting the user to save the file locally. What should you do?

* A. Enable Cloud CDN on the website frontend.
* B. Enable 'Share publicly' on the PDF file objects.
* C. Set Content-Type metadata to application/pdf on the PDF file objects.
* D. Add a label to the storage bucket with a key of Content-Type and value of application/pdf.

**Correct Answer:** *C*

Question #49*Topic 1*

You have a virtual machine that is currently configured with 2 vCPUs and 4 GB of memory. It is running out of memory. You want to upgrade the virtual machine to have 8 GB of memory. What should you do?

* A. Rely on live migration to move the workload to a machine with more memory.
* B. Use gcloud to add metadata to the VM. Set the key to required-memory-size and the value to 8 GB.
* C. Stop the VM, change the machine type to n1-standard-8, and start the VM.
* D. Stop the VM, increase the memory to 8 GB, and start the VM.

**Correct Answer:** *D*

Question #50*Topic 1*

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*

Question #51*Topic 1*

You need to create an autoscaling managed instance group for an HTTPS web application. You want to make sure that unhealthy VMs are recreated. What should you do?

* A. Create a health check on port 443 and use that when creating the Managed Instance Group.
* B. Select Multi-Zone instead of Single-Zone when creating the Managed Instance Group.
* C. In the Instance Template, add the label 'health-check'.
* D. In the Instance Template, add a startup script that sends a heartbeat to the metadata server.

**Correct Answer:** *A*

ANSWER A. Create a health check on port 443 and use that when creating the Managed Instance Group. To ensure that unhealthy VMs are recreated, a health check should be created to monitor the instances in the managed instance group. This health check should be configured to check the appropriate endpoint for the web application, which in this case would be port 443 for HTTPS. If an instance is determined to be unhealthy, the instance group will automatically recreate it. INCORRECT: ANSWER B is not directly related to recreating unhealthy VMs, but instead ensures that the instance group spans multiple zones for increased availability. ANSWER C, adding a label to the instance template, has no direct impact on the ability to recreate unhealthy VMs. ANSWER D, adding a startup script to send a heartbeat to the metadata server, can help detect and recover from application-level failures, but it does not directly ensure that unhealthy VMs are recreated.

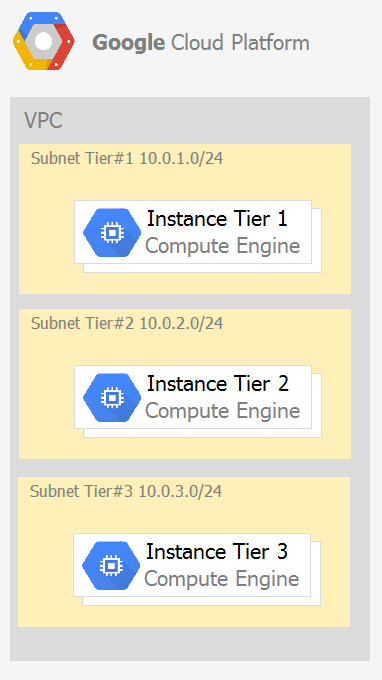
Question #52*Topic 1*

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:** C

Question #53*Topic 1*

Your company has a 3-tier solution running on Compute Engine. The configuration of the current infrastructure is shown below.  
  
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: ג€¢ Targets: all instances ג€¢ Source filter: IP ranges (with the range set to 10.0.2.0/24) ג€¢ Protocols: allow all 2. Create an ingress firewall rule with the following settings: ג€¢ Targets: all instances ג€¢ Source filter: IP ranges (with the range set to 10.0.1.0/24) ג€¢ Protocols: allow all
* B. 1. Create an ingress firewall rule with the following settings: ג€¢ Targets: all instances with tier #2 service account ג€¢ Source filter: all instances with tier #1 service account ג€¢ Protocols: allow TCP:8080 2. Create an ingress firewall rule with the following settings: ג€¢ Targets: all instances with tier #3 service account ג€¢ Source filter: all instances with tier #2 service account ג€¢ Protocols: allow TCP: 8080
* C. 1. Create an ingress firewall rule with the following settings: ג€¢ Targets: all instances with tier #2 service account ג€¢ Source filter: all instances with tier #1 service account ג€¢ Protocols: allow all 2. Create an ingress firewall rule with the following settings: ג€¢ Targets: all instances with tier #3 service account ג€¢ Source filter: all instances with tier #2 service account ג€¢ Protocols: allow all
* D. 1. Create an egress firewall rule with the following settings: ג€¢ Targets: all instances ג€¢ Source filter: IP ranges (with the range set to 10.0.2.0/24) ג€¢ Protocols: allow TCP: 8080 2. Create an egress firewall rule with the following settings: ג€¢ Targets: all instances ג€¢ Source filter: IP ranges (with the range set to 10.0.1.0/24) ג€¢ Protocols: allow TCP: 8080

**Correct Answer:** *B*

Question #54

ou 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*

Question #55*Topic 1*

Your projects incurred more costs than you expected last month. Your research reveals that a development GKE container emitted a huge number of logs, which resulted in higher costs. You want to disable the logs quickly using the minimum number of steps. What should you do?

* A. 1. Go to the Logs ingestion window in Stackdriver Logging, and disable the log source for the GKE container resource.
* B. 1. Go to the Logs ingestion window in Stackdriver Logging, and disable the log source for the GKE Cluster Operations resource.
* C. 1. Go to the GKE console, and delete existing clusters. 2. Recreate a new cluster. 3. Clear the option to enable legacy Stackdriver Logging.
* D. 1. Go to the GKE console, and delete existing clusters. 2. Recreate a new cluster. 3. Clear the option to enable legacy Stackdriver Monitorin

**Correct Answer:** *A*

Question #56*Topic 1*

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:** *B*

Question #57*Topic 1*

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:** *B*

Question #58*Topic 1*

You are building an application that stores relational data from users. Users across the globe will use this application. Your CTO is concerned about the scaling requirements because the size of the user base is unknown. You need to implement a database solution that can scale with your user growth with minimum configuration changes. Which storage solution should you use?

* A. Cloud SQL
* B. Cloud Spanner
* C. Cloud Firestore
* D. Cloud Datastore

**Correct Answer:** *B*

Cloud SQL for small relational data, scaled manually Cloud Spanner for relational data, scaled automatically Cloud Firestore for app-based data(?) Cloud Datastore for non-relational data Correct me if i'm wrong

Question #59*Topic 1*

You are the organization and billing administrator for your company. The engineering team has the Project Creator role on the organization. You do not want the engineering team to be able to link projects to the billing account. Only the finance team should be able to link a project to a billing account, but they should not be able to make any other changes to projects. What should you do?

* A. Assign the finance team only the Billing Account User role on the billing account.
* B. Assign the engineering team only the Billing Account User role on the billing account.
* C. Assign the finance team the Billing Account User role on the billing account and the Project Billing Manager role on the organization.
* D. Assign the engineering team the Billing Account User role on the billing account and the Project Billing Manager role on the organization.

**Correct Answer:**  C

Question #60*Topic 1*

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(51%) AND C(49%)*

Question #61*Topic 1*

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:** B

Question #62*Topic 1*

You want to run a single caching HTTP reverse proxy on GCP for a latency-sensitive website. This specific reverse proxy consumes almost no CPU. You want to have a 30-GB in-memory cache, and need an additional 2 GB of memory for the rest of the processes. You want to minimize cost. How should you run this reverse proxy?

* A. Create a Cloud Memorystore for Redis instance with 32-GB capacity.
* B. Run it on Compute Engine, and choose a custom instance type with 6 vCPUs and 32 GB of memory.
* C. Package it in a container image, and run it on Kubernetes Engine, using n1-standard-32 instances as nodes.
* D. Run it on Compute Engine, choose the instance type n1-standard-1, and add an SSD persistent disk of 32 GB.

**Correct Answer A**

Question #63*Topic 1*

You are hosting an application on bare-metal servers in your own data center. The application needs access to Cloud Storage. However, security policies prevent the servers hosting the application from having public IP addresses or access to the internet. You want to follow Google-recommended practices to provide the application with access to Cloud Storage. What should you do?

* A. 1. Use nslookup to get the IP address for storage.googleapis.com. 2. Negotiate with the security team to be able to give a public IP address to the servers. 3. Only allow egress traffic from those servers to the IP addresses for storage.googleapis.com.
* B. 1. Using Cloud VPN, create a VPN tunnel to a Virtual Private Cloud (VPC) in Google Cloud. 2. In this VPC, create a Compute Engine instance and install the Squid proxy server on this instance. 3. Configure your servers to use that instance as a proxy to access Cloud Storage.
* C. 1. Use Migrate for Compute Engine (formerly known as Velostrata) to migrate those servers to Compute Engine. 2. Create an internal load balancer (ILB) that uses storage.googleapis.com as backend. 3. Configure your new instances to use this ILB as proxy.
* D. 1. Using Cloud VPN or Interconnect, create a tunnel to a VPC in Google Cloud. 2. Use Cloud Router to create a custom route advertisement for 199.36.153.4/30. Announce that network to your on-premises network through the VPN tunnel. 3. In your on-premises network, configure your DNS server to resolve \*.googleapis.com as a CNAME to restricted.googleapis.com.

**Correct Answer:** D

Question #64*Topic 1*

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 C**

Question #65*Topic 1*

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 GKE with cluster autoscaling and horizontal pod autoscaling enabled.

**Correct Answer C**

Question #66*Topic 1*

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 A**

Question #67*Topic 1*

You built an application on Google Cloud 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 A**

Question #68*Topic 1*

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 Cloud 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 Cloud 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 Cloud 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*

Question #69*Topic 1*

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:** *A*

Question #70*Topic 1*

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* [🗳️](https://www.examtopics.com/exams/google/associate-cloud-engineer/view/18/)  
Reference: <https://cloud.google.com/vision/automl/docs/before-you-begin>

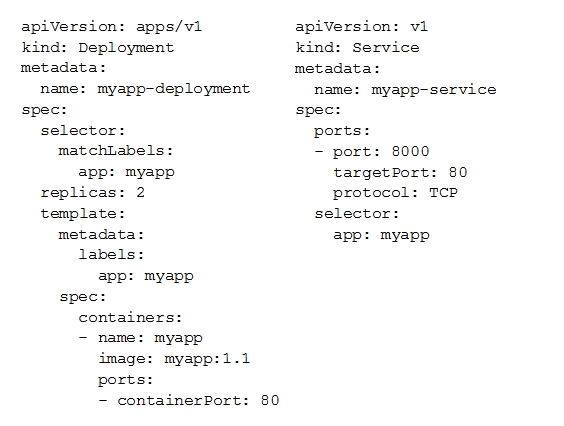
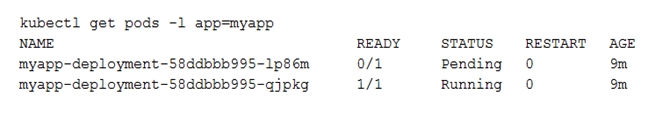
Question #71*Topic 1*

You are using Container Registry to centrally store your company's container images in a separate project. In another project, you want to create a Google  
Kubernetes Engine (GKE) cluster. You want to ensure that Kubernetes can download images from Container Registry. What should you do?

* A. In the project where the images are stored, grant the Storage Object Viewer IAM role to the service account used by the Kubernetes nodes.
* B. When you create the GKE cluster, choose the Allow full access to all Cloud APIs option under 'Access scopes'.
* C. Create a service account, and give it access to Cloud Storage. Create a P12 key for this service account and use it as an imagePullSecrets in Kubernetes.
* D. Configure the ACLs on each image in Cloud Storage to give read-only access to the default Compute Engine service acc

**Correct Answer:** *A*

Question #72*Topic 1*

You deployed a new application inside your Google Kubernetes Engine cluster using the YAML file specified below.  
  
You check the status of the deployed pods and notice that one of them is still in PENDING status:  
  
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* [🗳️](https://www.examtopics.com/exams/google/associate-cloud-engineer/view/18/)  
Reference: <https://cloud.google.com/run/docs/gke/troubleshooting>

Question #73*Topic 1*

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: B**

Question #74*Topic 1*

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: A**

Question #75*Topic 1*

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*

Question #76*Topic 1*

You are building a new version of an application hosted in an App Engine environment. You want to test the new version with 1% of users before you completely switch your application over to the new version. What should you do?

* A. Deploy a new version of your application in Google Kubernetes Engine instead of App Engine and then use GCP Console to split traffic.
* B. Deploy a new version of your application in a Compute Engine instance instead of App Engine and then use GCP Console to split traffic.
* C. Deploy a new version as a separate app in App Engine. Then configure App Engine using GCP Console to split traffic between the two apps.
* D. Deploy a new version of your application in App Engine. Then go to App Engine settings in GCP Console and split traffic between the current version and newly deployed versions accordingly.

**Correct Answer:** *D*

Question #77*Topic 1*

You need to provide a cost estimate for a Kubernetes cluster using the GCP pricing calculator for Kubernetes. Your workload requires high IOPs, and you will also be using disk snapshots. You start by entering the number of nodes, average hours, and average days. What should you do next?

* A. Fill in local SSD. Fill in persistent disk storage and snapshot storage.
* B. Fill in local SSD. Add estimated cost for cluster management.
* C. Select Add GPUs. Fill in persistent disk storage and snapshot storage.
* D. Select Add GPUs. Add estimated cost for cluster management.

**Correct Answer:** *A*

Question #78*Topic 1*

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* [🗳️](https://www.examtopics.com/exams/google/associate-cloud-engineer/view/20/)  
Reference:https://cloud.google.com/kubernetes-engine/docs/tutorials/http-balancer

Question #79*Topic 1*

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*

Question #80*Topic 1*

You want to add a new auditor to a Google Cloud Platform project. The auditor should be allowed to read, but not modify, all project items.  
How should you configure the auditor's permissions?

* A. Create a custom role with view-only project permissions. Add the user's account to the custom role.
* B. Create a custom role with view-only service permissions. Add the user's account to the custom role.
* C. Select the built-in IAM project Viewer role. Add the user's account to this role.
* D. Select the built-in IAM service Viewer role. Add the user's account to this role.

**Correct Answer:** *C*

Question #81*Topic 1*

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 ג€accelerator: gpuג€ 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:D**

Question #82*Topic 1*

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: A**

Question #83*Topic 1*

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* [🗳️](https://www.examtopics.com/exams/google/associate-cloud-engineer/view/21/)  
Reference: https://cloud.google.com/resource-manager/docs/creating-managing-organization

Question #84*Topic 1*

You have a Google Cloud Platform account with access to both production and development projects. You need to create an automated process to list all compute instances in development and production projects on a daily basis. What should you do?

* A. Create two configurations using gcloud config. Write a script that sets configurations as active, individually. For each configuration, use gcloud compute instances list to get a list of compute resources.
* B. Create two configurations using gsutil config. Write a script that sets configurations as active, individually. For each configuration, use gsutil compute instances list to get a list of compute resources.
* C. Go to Cloud Shell and export this information to Cloud Storage on a daily basis.
* D. Go to GCP Console and export this information to Cloud SQL on a daily basis.

**Correct Answer:** *A*

Question #85*Topic 1*

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*

Question #86*Topic 1*

You need to verify that a Google Cloud Platform service account was created at a particular time. What should you do?

* A. Filter the Activity log to view the Configuration category. Filter the Resource type to Service Account.
* B. Filter the Activity log to view the Configuration category. Filter the Resource type to Google Project.
* C. Filter the Activity log to view the Data Access category. Filter the Resource type to Service Account.
* D. Filter the Activity log to view the Data Access category. Filter the Resource type to Google Project.

**Correct Answer:** *A*

Question #87*Topic 1*

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*

Question #88*Topic 1*

You need to set a budget alert for use of Compute Engineer services on one of the three Google Cloud Platform projects that you manage. All three projects are linked to a single billing account. What should you do?

* A. Verify that you are the project billing administrator. Select the associated billing account and create a budget and alert for the appropriate project.
* B. Verify that you are the project billing administrator. Select the associated billing account and create a budget and a custom alert.
* C. Verify that you are the project administrator. Select the associated billing account and create a budget for the appropriate project.
* D. Verify that you are project administrator. Select the associated billing account and create a budget and a custom alert.

**Correct Answer:** *B*

Question #89*Topic 1*

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:** *A*

Question #90*Topic 1*

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* [🗳️](https://www.examtopics.com/exams/google/associate-cloud-engineer/view/23/)  
Reference: <https://cloud.google.com/storage/docs/managing-lifecycles>

Question #91*Topic 1*

Your company's infrastructure is on-premises, but all machines are running at maximum capacity. You want to burst to Google Cloud. The workloads on Google  
Cloud must be able to directly communicate to the workloads on-premises using a private IP range. What should you do?

* A. In Google Cloud, configure the VPC as a host for Shared VPC.
* B. In Google Cloud, configure the VPC for VPC Network Peering.
* C. Create bastion hosts both in your on-premises environment and on Google Cloud. Configure both as proxy servers using their public IP addresses.
* D. Set up Cloud VPN between the infrastructure on-premises and Google Cloud

**Correct Answer:** *D*

Question #92*Topic 1*

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:** *D*

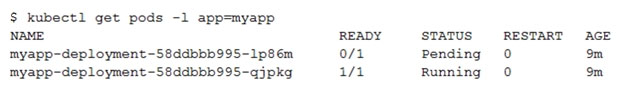
Question #93*Topic 1*

Your company uses BigQuery for data warehousing. Over time, many different business units in your company have created 1000+ datasets across hundreds of projects. Your CIO wants you to examine all datasets to find tables that contain an employee\_ssn column. You want to minimize effort in performing this task.  
What should you do?

* A. Go to Data Catalog and search for employee\_ssn in the search box.
* B. Write a shell script that uses the bq command line tool to loop through all the projects in your organization.
* C. Write a script that loops through all the projects in your organization and runs a query on INFORMATION\_SCHEMA.COLUMNS view to find the employee\_ssn column.
* D. Write a Cloud Dataflow job that loops through all the projects in your organization and runs a query on INFORMATION\_SCHEMA.COLUMNS view to find employee\_ssn column.

**Correct Answer:** *A*

Question #94*Topic 1*

You create a Deployment with 2 replicas in a Google Kubernetes Engine cluster that has a single preemptible node pool. After a few minutes, you use kubectl to examine the status of your Pod and observe that one of them is still in Pending status:  
  
What is the most likely cause?

* A. The pending Pod's resource requests are too large to fit on a single node of the cluster.
* B. Too many Pods are already running in the cluster, and there are not enough resources left to schedule the pending Pod.
* C. The node pool is configured with a service account that does not have permission to pull the container image used by the pending Pod.
* D. The pending Pod was originally scheduled on a node that has been preempted between the creation of the Deployment and your verification of the Pods' status. It is currently being rescheduled on a new node.

**Correct Answer:** *B* and D

Question #95*Topic 1*

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*

Question #96*Topic 1*

Your company implemented BigQuery as an enterprise data warehouse. Users from multiple business units run queries on this data warehouse. However, you notice that query costs for BigQuery are very high, and you need to control costs. Which two methods should you use? (Choose two.)

* A. Split the users from business units to multiple projects.
* B. Apply a user- or project-level custom query quota for BigQuery data warehouse.
* C. Create separate copies of your BigQuery data warehouse for each business unit.
* D. Split your BigQuery data warehouse into multiple data warehouses for each business unit.
* E. Change your BigQuery query model from on-demand to flat rate. Apply the appropriate number of slots to each Project.

**Correct Answer:** *B*