Google Certified Professional - Cloud Architect (GCP)

1. Your company has developed a monolithic, 3-tier application to allow external users to upload and share files. The solution cannot be easily enhanced and lacks reliability. The development team would like to re-architect the application to adopt microservices and a fully managed service approach, but they need to convince their leadership that the effort is worthwhile. Which advantage(s) should they highlight to leadership?

A. The new approach will make it easier to decouple infrastructure from application, develop and release new features, manage the underlying infrastructure, manage CI/CD pipelines and perform A/B testing, and scale the solution if necessary.

B. The monolithic solution can be converted to a container with Docker. The generated container can then be deployed into a Kubernetes cluster.

C. The new approach will be significantly less costly, make it easier to manage the underlying infrastructure, and automatically manage the CI/CD pipelines.

D. The process can be automated with Migrate for Compute Engine.

Answer(s): A

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2. Your customer wants to capture multiple GBs of aggregate real-time key performance indicators (KPIs) from their game servers running on Google Cloud Platform and monitor the KPIs with low latency. How should they capture the KPIs?

A. Store time-series data from the game servers in Google Bigtable, and view it using Google Data Studio.

B. Output custom metrics to Stackdriver from the game servers, and create a Dashboard in Stackdriver Monitoring Console to view them.

C. Schedule BigQuery load jobs to ingest analytics files uploaded to Cloud Storage every ten minutes, and visualize the results in Google Data Studio.

D. Insert the KPIs into Cloud Datastore entities, and run ad hoc analysis and visualizations of them in Cloud Datalab.

Answer(s): A

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3. For this question, refer to the Helicopter Racing League (HRL) case study. Recently HRL started a new regional racing league in Cape Town, South Africa. In an effort to give customers in Cape Town a better user experience, HRL has partnered with the Content Delivery Network provider, Fastly. HRL needs to allow traffic coming from all of the Fastly IP address ranges into their Virtual Private Cloud network (VPC network). You are a member of the HRL security team and you need to configure the update that will allow only the Fastly IP address ranges through the External HTTP(S) load balancer. Which command should you use?

A. Apply a Cloud Armor security policy to external load balancers using a named IP list for Fastly.

B. Apply a Cloud Armor security policy to external load balancers using the IP addresses that Fastly has published. C. Apply a VPC firewall rule on port 443 for Fastly IP address ranges.

C. Apply a VPC firewall rule on port 443 for network resources tagged with scurceiplisr-fasrly.

Answer(s): C

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4. You are running a cluster on Kubernetes Engine to serve a web application. Users are reporting that a specific part of the application is not responding anymore. You notice that all pods of your deployment keep restarting after 2 seconds. The application writes logs to standard output. You want to inspect the logs to find the cause of the issue. Which approach can you take?

A. Review the Serial Port logs for each Compute Engine instance that is serving as a node in the cluster.

B. Connect to the cluster using gcloud credentials and connect to a container in one of the pods to read the logs.

C. Review the Stackdriver logs for the specific Kubernetes Engine container that is serving the unresponsive part of the application.

D. Review the Stackdriver logs for each Compute Engine instance that is serving as a node in the cluster.

Answer(s): C

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5. For this question, refer to the Helicopter Racing League (HRL) case study. The HRL development team releases a new version of their predictive capability application every Tuesday evening at 3 a.m. UTC to a repository. The security team at HRL has developed an in-house penetration test Cloud Function called Airwolf.

A. Set up Identity and Access Management (IAM) and Confidential Computing to trigger a Cloud Function.

B. Set up Cloud Tasks and a Cloud Storage bucket that triggers a Cloud Function.

C. Configure the deployment job to notify a Pub/Sub queue that triggers a Cloud Function.

D. Set up a Cloud Logging sink and a Cloud Storage bucket that triggers a Cloud Function.

Answer(s): B

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6. For this question, refer to the TerramEarth case study.

A. Use one Google Container Engine cluster of FTP servers. Save the data to a Multi-Regional bucket.Run the ETL process using data in the bucket.

B. Use multiple Google Container Engine clusters running FTP servers located in different regions. Save the data to Multi-Regional buckets in us, eu, and asia. Run the ETL process using the data in the bucket.

C. Directly transfer the files to different Google Cloud Multi-Regional Storage bucket locations in us, eu, and asia using Google APIs over HTTP(S). Run the ETL process using the data in the bucket.

D. Directly transfer the files to a different Google Cloud Regional Storage bucket location in us, eu, and asia using Google APIs over HTTP(S). Run the ETL process to retrieve the data from each Regional bucket.

Answer(s): D

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7. You need to optimize batch file transfers into Cloud Storage for Mountkirk Games' new Google Cloud solution.

A. Use gsutil to batch move files in sequence.

B. Use gsutil to batch copy the files in parallel.

C. Use gsutil to extract the files as the first part of ETL.

D. Use gsutil to load the files as the last part of ETL.

Answer(s): B

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8. For this question, refer to the Dress4Win case study.

A. Configure their load balancer to pass through the User-Agent HTTP header when the value matches GoogleStackdriverMonitoring-UptimeChecks (https://cloud.google.com/monitoring)

B. Install the Stackdriver agent on all of the legacy web servers.

C. Configure their legacy web servers to allow requests that contain user-Agent HTTP header when the value matches GoogleStackdriverMonitoring- UptimeChecks (https://cloud.google.com/monitoring)

D. In the Cloud Platform Console download the list of the uptime servers' IP addresses and create an inbound firewall rule

Answer(s): D

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9. Your company is running its application workloads on Compute Engine. The applications have been deployed in production, acceptance, and development environments. The production environment is business-critical and is used 24/7, while the acceptance and development environments are only critical during office hours. Your CFO has asked you to optimize these environments to achieve cost savings during idle times. What should you do?

A. Create a shell script that uses the gcloud command to change the machine type of the development and acceptance instances to a smaller machine type outside of office hours. Schedule the shell script on one of the production instances to automate the task.

B. Use Cloud Scheduler to trigger a Cloud Function that will stop the development and acceptance environments after office hours and start them just before office hours.

C. Deploy the development and acceptance applications on a managed instance group and enable autoscaling.

D. Use regular Compute Engine instances for the production environment, and use preemptible VMs for the acceptance and development environments.

Answer(s): B

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10. Your company wants to migrate their 10-TB on-premises database export into Cloud Storage You want to minimize the time it takes to complete this activity, the overall cost and database load. The bandwidth between the on-premises environment and Google Cloud is 1 Gbps. You want to follow Google-recommended practices What should you do?

A. Use the Data Transfer appliance to perform an offline migration

B. Use a commercial partner ETL solution to extract the data from the on-premises database and upload it into Cloud Storage

C. Develop a Dataflow job to read data directly from the database and write it into Cloud Storage

D. Compress the data and upload it with gsutii -m to enable multi-threaded copy

Answer(s): A

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11. Your company has a Google Workspace account and Google Cloud Organization Some developers in the company have created Google Cloud projects outside of the Google Cloud Organization You want to create an Organization structure that allows developers to create projects, but prevents them from modifying production projects You want to manage policies for all projects centrally and be able to set more restrictive policies for production projects You want to minimize disruption to users and developers when business needs change in the future You want to follow Google-recommended practices How should you design the Organization structure?

A. 1 Create a second Google Workspace account and Organization2 Grant all developers the Project Creator IAM role on the new Organization3 Move the developer projects into the new Organization4 Set the policies for all projects on both Organizations.5 Additionally set the production policies on the original Organization

B. 1 Create a folder under the Organization resource named "Production '2 Grant all developers the Project Creator IAM role on the Organization 3. Move the developer projects into the Organization4 Set the policies for all projects on the Organization5 Additionally set the production policies on the 'Production" folder

C. 1 Create folders under the Organization resource named "Development" and Production'2 Grant all developers the Project Creator IAM role on the ""Development1 folder 3. Move the developer projects into the "Development" folder4 Set the policies for all projects on the Organization5 Additionally set the production policies on the "Production" folder

D. 1 Designate the Organization for production projects only2 Ensure that developers do not have the Project Creator IAM role on the Organization3 Create development projects outside of the Organization using the developer Google Workspace accounts4 Set the policies for all projects on the Organization5 Additionally set the production policies on the individual production projects

Answer(s): C

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12. You need to deploy an application on Google Cloud that must run on a Debian Linux environment. The application requires extensive configuration in order to operate correctly. You want to ensure that you can install Debian distribution updates with minimal manual intervention whenever they become available. What should you do?

A. Create a Compute Engine instance template using the most recent Debian image. Create an instance from this template, and install and configure the application as part of the startup script. Repeat this process whenever a new Google-managed Debian image becomes available.

B. Create a Debian-based Compute Engine instance, install and configure the application, and use OS patch management to install available updates.

C. Create an instance with the latest available Debian image. Connect to the instance via SSH, and install and configure the application on the instance. Repeat this process whenever a new Google-managed Debian image becomes available.

D. Create a Docker container with Debian as the base image. Install and configure the application as part of the Docker image creation process. Host the container on Google Kubernetes Engine and restart the container whenever a new update is available.

Answer(s): B

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13. Your company has a project in Google Cloud with three Virtual Private Clouds (VPCs). There is a Compute Engine instance on each VPC. Network subnets do not overlap and must remain separated. The network configuration is shown below.

A. Create a cloud router to advertise subnet #2 and subnet #3 to subnet #1.

B. Add two additional NICs to Instance #1 with the following configuration:*NIC1VPC: VPC #2SUBNETWORK: subnet #2*NIC2VPC: VPC #3SUBNETWORK: subnet #3Update firewall rules to enable traffic between instances.

C. Create two VPN tunnels via CloudVPN:*1 between VPC #1 and VPC #2.*1 between VPC #2 and VPC #3.Update firewall rules to enable traffic between the instances.

D. Peer all three VPCs:*Peer VPC #1 with VPC #2.*Peer VPC #2 with VPC #3.Update firewall rules to enable traffic between the instances.

Answer(s): B

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14. You need to ensure reliability for your application and operations by supporting reliable task a scheduling for compute on GCP. Leveraging Google best practices, what should you do?

A. Using the Cron service provided by App Engine, publishing messages directly to a message-processing utility service running on Compute Engine instances.

B. Using the Cron service provided by App Engine, publish messages to a Cloud Pub/Sub topic.Subscribe to that topic using a message-processing utility service running on Compute Engine instances.

C. Using the Cron service provided by Google Kubernetes Engine (GKE), publish messages directly to a message-processing utility service running on Compute Engine instances.

D. Using the Cron service provided by GKE, publish messages to a Cloud Pub/Sub topic. Subscribe to that topic using a message-processing utility service running on Compute Engine instances.

Answer(s): B

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15. Your organization wants to control IAM policies for different departments independently, but centrally.

A. Multiple Organizations with multiple Folders

B. Multiple Organizations, one for each department

C. A single Organization with Folder for each department

D. A single Organization with multiple projects, each with a central owner

Answer(s): C

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16. Your company has a Google Cloud project that uses BlgQuery for data warehousing There are some tables that contain personally identifiable information (PI!) Only the compliance team may access the PH. The other information in the tables must be available to the data science team. You want to minimize cost and the time it takes to assign appropriate access to the tables What should you do?

A. 1 From the dataset where you have the source data, create views of tables that you want to share, excluding Pll2 Assign an appropriate project-level IAM role to the members of the data science team3 Assign access controls to the dataset that contains the view

B. 1 From the dataset where you have the source data, create materialized views of tables that you want to share excluding Pll2 Assign an appropriate project-level IAM role to the members of the data science team 3. Assign access controls to the dataset that contains the view.

C. 1 Create a dataset for the data science team2 Create views of tables that you want to share excluding Pll3 Assign an appropriate project-level IAM role to the members of the data science team4 Assign access controls to the dataset that contains the view5 Authorize the view to access the source dataset

D. 1. Create a dataset for the data science team.2. Create materialized views of tables that you want to share, excluding Pll3. Assign an appropriate project-level IAM role to the members of the data science team4 Assign access controls to the dataset that contains the view5 Authorize the view to access the source dataset

Answer(s): C

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

A. Encrypt the message client side using block-based encryption with a shared key.

B. Tag messages client side with the originating user identifier and the destination user.

C. Use a trusted certificate authority to enable SSL connectivity between the client application and the server.

D. Use public key infrastructure (PKI) to encrypt the message client side using the originating user's private key.

Answer(s): D

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18. You are responsible for the Google Cloud environment in your company Multiple departments need access to their own projects and the members within each department will have the same project responsibilities You want to structure your Google Cloud environment for minimal maintenance and maximum overview of 1AM permissions as each department's projects start and end You want to follow Google-recommended practices What should you do?

A. Create a Google Group per department and add all department members to their respective groups Create a folder per department and grant the respective group the required 1AM permissions at the folder level Add the projects under the respective folders

B. Grant all department members the required 1AM permissions for their respective projects

C. Create a Google Group per department and add all department members to their respective groups Grant each group the required I AM permissions for their respective projects

D. Create a folder per department and grant the respective members of the department the required 1AM permissions at the folder level. Structure all projects for each department under the respective folders

Answer(s): C

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19. Your company pushes batches of sensitive transaction data from its application server VMs to Cloud Pub/Sub for processing and storage. What is the Google-recommended way for your application to authenticate to the required Google Cloud services?

A. Ensure that VM service accounts are granted the appropriate Cloud Pub/Sub IAM roles.

B. Ensure that VM service accounts do not have access to Cloud Pub/Sub, and use VM access scopes to grant the appropriate Cloud Pub/Sub IAM roles.

C. Generate an OAuth2 access token for accessing Cloud Pub/Sub, encrypt it, and store it in Cloud Storage for access from each VM.

D. Create a gateway to Cloud Pub/Sub using a Cloud Function, and grant the Cloud Function service account the appropriate Cloud Pub/Sub IAM roles.

Answer(s): A

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20. You need to upload files from your on-premises environment to Cloud Storage. You want the files to be encrypted on Cloud Storage using customer-supplied encryption keys. What should you do?

A. Supply the encryption key in a .boto configuration file. Use gsutil to upload the files.

B. Supply the encryption key using gcloud config. Use gsutil to upload the files to that bucket.

C. Use gsutil to upload the files, and use the flag --encryption-key to supply the encryption key.

D. Use gsutil to create a bucket, and use the flag --encryption-key to supply the encryption key. Use gsutil to upload the files to that bucket.

Answer(s): A
