Google Cloud

Partner Certification Academy

Professional Cloud Developer

v2309

Quiz questions*

Kubernetes Engine Deployment Patterns

** These are for practice only and are not actual exam questions*

Question: What is the primary purpose of performing a rolling update in Google Kubernetes Engine (GKE)?

- A. To update the GKE cluster version.
- B. To incrementally replace your resource's Pods with new ones without downtime.
- C. To backup the existing Pods before updating.
- D. To change the node pool configuration.

Question: Which of the following objects can trigger a rolling update by updating their Pod template in Kubernetes?

- A. ConfigMaps

- B. Secrets
- C. Deployments
- D. Services

Question: How do you trigger an update rollout for a Kubernetes workload?

- A. By scaling the resource.
- B. By updating fields outside of the Pod template.
- C. By updating the spec: template field in the object's manifest.
- D. By changing the node pool.

Question: What command would you use to update a Deployment's container image from nginx version 1.7.9 to 1.9.1?

- A. kubectl apply -f deployment.yaml
- B. kubectl set image deployment nginx nginx=nginx:1.9.1
- C. kubectl rollout update nginx=nginx:1.9.1
- D. kubectl patch deployment nginx --image=nginx:1.9.1

Question: How can you inspect the status of a rollout for a Deployment named nginx?

- A. kubectl describe deployment nginx
- B. kubectl get deployment nginx
- C. kubectl rollout status deployment nginx
- D. kubectl inspect deployment nginx

Question: How can you pause a rolling update for a Deployment named nginx?

- A. kubectl pause deployment nginx
- B. kubectl stop deployment nginx
- C. kubectl rollout stop deployment nginx

- D. kubectl rollout pause deployment nginx

Question: Which command allows you to view the rollout history of a Deployment named nginx?

- A. kubectl history deployment nginx
- B. kubectl describe deployment nginx
- C. kubectl get deployment nginx --history
- D. kubectl rollout history deployment nginx

Question: How can you rollback a Deployment named nginx to its third revision?

- A. kubectl rollback deployment nginx --revision 3
- B. kubectl set revision deployment nginx 3
- C. kubectl rollout undo deployment nginx --to-revision 3
- D. kubectl revert deployment nginx --version 3

Question: In a CI/CD pipeline for GKE, what is the recommended practice regarding rebuilding container images as they pass through different stages?

- A. Rebuild container images at every stage.
- B. Build once and promote along your environments.
- C. Rebuild only in the production stage.
- D. Rebuild in the staging environment and use the same image for production.

Question: Your company is expanding its services to the Asia-Pacific region and has decided to launch a new version of its e-commerce platform specifically for this market. The platform is hosted on Google Kubernetes Engine. Both the global and the Asia-Pacific versions of the platform should be accessible via the same HTTP(S) load balancer's external IP address but under different subdomains. How can you achieve this?

- A. Create a new Ingress resource for the Asia-Pacific version and assign a new external IP address.
- B. Modify the existing Ingress resource with a host rule matching the new subdomain.
- C. Deploy a new GKE cluster for the Asia-Pacific version and link it to the existing load balancer.
- D. Use Network Endpoint Groups (NEGs) to direct traffic based on the subdomain.

Question: You are tasked with setting up a blog platform for the marketing team in your organization. The platform is hosted on Google Kubernetes Engine. The marketing team wants both the English and Spanish versions of the blog to be accessible via the same HTTP(S) load balancer's external IP address but under different paths (e.g., /en and /es). What is the best approach to achieve this?

- A. Deploy two separate GKE clusters, one for each language version.
- B. Use Network Endpoint Groups (NEGs) to segregate traffic based on the path.
- C. Modify the existing Ingress resource with a path-based rule for each language version
- D. Create two separate Ingress resources and assign different external IP addresses for each.

Answers to Quiz questions

Kubernetes Engine Deployment Patterns

Question: What is the primary purpose of performing a rolling update in Google Kubernetes Engine (GKE)?

- A. To update the GKE cluster version.
- B. To incrementally replace your resource's Pods with new ones without downtime.
- C. To backup the existing Pods before updating.

- D. To change the node pool configuration.

Correct Answer: B. To incrementally replace your resource's Pods with new ones without downtime.

Explanation: Rolling updates are designed to update your workloads without causing any downtime. They incrementally replace the existing Pods with new ones.
Resource: Performing rolling updates | Google Kubernetes Engine (GKE) | Google Cloud

Question: Which of the following objects can trigger a rolling update by updating their Pod template in Kubernetes?

- A. ConfigMaps
- B. Secrets
- C. Deployments
- D. Services

Correct Answer: C. Deployments

Explanation: In Kubernetes, DaemonSets, Deployments, and StatefulSets have a Pod template. You can trigger a rolling update on these workloads by updating their Pod template.
Resource: Performing rolling updates | Google Kubernetes Engine (GKE) | Google Cloud

Question: How do you trigger an update rollout for a Kubernetes workload?

- A. By scaling the resource.
- B. By updating fields outside of the Pod template.
- C. By updating the spec: template field in the object's manifest.
- D. By changing the node pool.

Correct Answer: C. By updating the spec: template field in the object's manifest.

Explanation: You trigger an update rollout by updating the object's spec: template field. This field contains a specification for the Pods that the controller creates to realize the desired state or behavior.
Resource: Performing rolling updates | Google Kubernetes Engine (GKE) | Google Cloud

Question: What command would you use to update a Deployment's container image from nginx version 1.7.9 to 1.9.1?

- A. kubectl apply -f deployment.yaml
- B. kubectl set image deployment nginx nginx=nginx:1.9.1
- C. kubectl rollout update nginx=nginx:1.9.1
- D. kubectl patch deployment nginx --image=nginx:1.9.1

Correct Answer: B. kubectl set image deployment nginx nginx=nginx:1.9.1

Explanation: The kubectl set image command is used to update the image of a Deployment's Pods.
Resource: Performing rolling updates | Google Kubernetes Engine (GKE) | Google Cloud

Question: How can you inspect the status of a rollout for a Deployment named nginx?

- A. kubectl describe deployment nginx
- B. kubectl get deployment nginx
- C. kubectl rollout status deployment nginx
- D. kubectl inspect deployment nginx

Correct Answer: C. kubectl rollout status deployment nginx

Explanation: The kubectl rollout status command allows you to inspect the status of a rollout for a specific Deployment.
Resource: Performing rolling updates | Google Kubernetes Engine (GKE) | Google Cloud

Question: How can you pause a rolling update for a Deployment named nginx?

- A. kubectl pause deployment nginx
- B. kubectl stop deployment nginx
- C. kubectl rollout stop deployment nginx
- D. kubectl rollout pause deployment nginx

Correct Answer: D. kubectl rollout pause deployment nginx

Explanation: The kubectl rollout pause command is used to pause a rollout for a specific Deployment.
Resource: Performing rolling updates | Google Kubernetes Engine (GKE) | Google Cloud

Question: Which command allows you to view the rollout history of a Deployment named nginx?

- A. kubectl history deployment nginx
- B. kubectl describe deployment nginx
- C. kubectl get deployment nginx --history
- D. kubectl rollout history deployment nginx

Correct Answer: D. kubectl rollout history deployment nginx

Explanation: The kubectl rollout history command provides the rollout history of a specific Deployment.

Resource: Performing rolling updates | Google Kubernetes Engine (GKE) | Google Cloud

Question: How can you rollback a Deployment named nginx to its third revision?

- A. kubectl rollback deployment nginx --revision 3
- B. kubectl set revision deployment nginx 3
- C. kubectl rollout undo deployment nginx --to-revision 3
- D. kubectl revert deployment nginx --version 3

Correct Answer: C. kubectl rollout undo deployment nginx --to-revision 3

Explanation: The kubectl rollout undo command allows you to rollback a Deployment to a specific revision.
Resource: Performing rolling updates | Google Kubernetes Engine (GKE) | Google Cloud

Question: In a CI/CD pipeline for GKE, what is the recommended practice regarding rebuilding container images as they pass through different stages?

- A. Rebuild container images at every stage.
- B. Build once and promote along your environments.
- C. Rebuild only in the production stage.
- D. Rebuild in the staging environment and use the same image for production.

Correct Answer: B. Build once and promote along your environments.

Explanation: Rebuilding container images at different stages can introduce minor differences across code branches. To ensure that the tested container image is the one deployed, it's best to build once and promote the same image across different environments.

Resource: Best practices for continuous integration and delivery to Google Kubernetes Engine

Question: Your company is expanding its services to the Asia-Pacific region and has decided to launch a new version of its e-commerce platform specifically for this market. The platform is hosted on Google Kubernetes Engine. Both the global and the Asia-Pacific versions of the platform should be accessible via the same HTTP(S) load balancer's external IP address but under different subdomains. How can you achieve this?

- A. Create a new Ingress resource for the Asia-Pacific version and assign a new external IP address.
- B. Modify the existing Ingress resource with a host rule matching the new subdomain.
- C. Deploy a new GKE cluster for the Asia-Pacific version and link it to the existing load balancer.
- D. Use Network Endpoint Groups (NEGs) to direct traffic based on the subdomain.

Correct Answer: B. Modify the existing Ingress resource with a host rule matching the new subdomain.

Explanation: Ingress resources in GKE allow you to define how external HTTP(S) traffic should be routed to services within the cluster. By modifying the existing Ingress resource and adding a host rule for the new subdomain, you can route traffic to the appropriate service based on the domain name in the request.
Resource: GKE Ingress for Application Load Balancers

Question: You are tasked with setting up a blog platform for the marketing team in your organization. The platform is hosted on Google Kubernetes Engine. The marketing team wants both the English and Spanish versions of the blog to be accessible via the same HTTP(S) load balancer's external IP address but under different paths (e.g., /en and /es). What is the best approach to achieve this?

- A. Deploy two separate GKE clusters, one for each language version.
- B. Use Network Endpoint Groups (NEGs) to segregate traffic based on the path.
- C. Modify the existing Ingress resource with a path-based rule for each language version
- D. Create two separate Ingress resources and assign different external IP addresses for each.

Correct Answer: C. Modify the existing Ingress resource with a path-based rule for each language version.

Explanation: Path-based routing allows you to route traffic to different services based on the URL path. By modifying the Ingress resource and adding path-based rules, you can direct traffic to the appropriate service based on the requested path.
Resource: Ingress configuration on Google Cloud