Google Cloud

Partner Certification Academy


# Professional Cloud Developer

v2309

## Quiz questions*

## Deployment Patterns

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

Question: Which deployment pattern involves fully scaling down the existing application version before scaling up the new application version?

- A. Rolling update deployment
- B. Blue/green deployment
- C. Recreate deployment
- D. Canary test pattern

Question: In which deployment pattern do you update a subset of running application instances instead of updating every application instance simultaneously?

- A. Recreate deployment

- B. Rolling update deployment
- C. Blue/green deployment
- D. Canary test pattern

Question: You've developed a new recommendation system and wish to assess its impact on sales. What method would you employ to gauge the influence of this new system in a controlled manner?

- A. Direct all users to the updated system immediately.
- B. Split traffic between versions using weights.
- C. Rely solely on user feedback without any testing.
- D. Use only the old system for comparison.

Question: Which deployment pattern involves performing two identical deployments of your application, where only one version is live at a time?

- A. Recreate deployment
- B. Rolling update deployment
- C. Blue/green deployment
- D. Canary test pattern

Question: You're preparing to launch a revamped version of your application. To ensure a smooth transition and gather performance insights, you want to test the new version against the actual production workload. What's the recommended approach?

- A. Rely solely on synthetic load testing tools.
- B. Use A/B testing with traffic mirroring during deployment.
- C. Temporarily redirect all users to the new version.
- D. Wait for user reviews after the new version is launched.

Question: In which testing pattern do you partially roll out a change and then evaluate its performance against a baseline deployment?

- A. A/B test pattern
- B. Rolling update deployment
- C. Blue/green deployment
- D. Canary test pattern

Question: Which testing pattern tests a hypothesis using variant implementations and is used to make business decisions based on the results derived from data?

- A. A/B test pattern
- B. Rolling update deployment
- C. Blue/green deployment
- D. Canary test pattern

Question: In a Blue/Green deployment pattern, what happens to the "Blue" environment after the "Green" environment is made live?

- A. The "Blue" environment is immediately terminated.
- B. The "Blue" environment is used for A/B testing.
- C. The "Blue" environment is kept as a backup.
- D. The "Blue" environment is upgraded to the next version.

Question: What is the primary purpose of shadow testing in deployment patterns?

- A. To release a new version to all users immediately.
- B. To test the new version with real-world traffic without impacting user requests.
- C. To gradually roll out Version 2 and replace Version 1.
- D. To terminate Version 1 and roll out Version 2.

Question: In which deployment pattern is Version 2 released and receives real-world traffic without affecting user requests?

- A. Canary deployment
- B. Shadow test pattern
- C. A/B test pattern
- D. Blue/green deployment

Question: You've noticed that certain problems in your application only become evident when it starts handling real-world traffic after deployment. To minimize the number of affected users and the overall impact, which deployment approach would be most suitable?

- A. Blue/Green Deployment
- B. Canary Deployment
- C. Rolling Deployment
- D. Feature Toggles

Question: In the context of deploying applications on Google Cloud, if you want to use live traffic to gather performance metrics for both new and existing applications and test against the full production load prior to launch, which deployment technique should you consider?

- A. Blue/Green Deployment
- B. Canary Deployment
- C. A/B testing with traffic mirroring
- D. Rolling Deployment

# Answers to Quiz questions

## **Deployment Patterns**

Question: Which deployment pattern involves fully scaling down the existing application version before scaling up the new application version?

- A. Rolling update deployment
- B. Blue/green deployment
- C. Recreate deployment
- D. Canary test pattern

Correct Answer: C. Recreate deployment

Explanation: The recreate deployment pattern involves fully scaling down the existing application version before scaling up the new version. This method is simple but involves downtime during the update process.
Resource: Application deployment and testing strategies - Google Cloud

Question: In which deployment pattern do you update a subset of running application instances instead of updating every application instance simultaneously?

- A. Recreate deployment
- B. Rolling update deployment
- C. Blue/green deployment
- D. Canary test pattern

Correct Answer: B. Rolling update deployment

Explanation: In a rolling update deployment, a subset of running application instances is updated instead of updating every instance simultaneously. This approach allows for no downtime and reduced deployment risk.
Resource: Application deployment and testing strategies - Google Cloud

Question: You've developed a new recommendation system and wish to assess its impact on sales. What method would you employ to gauge the influence of this new system in a controlled manner?

- A. Direct all users to the updated system immediately.
- B. Split traffic between versions using weights.
- C. Rely solely on user feedback without any testing.
- D. Use only the old system for comparison.

Correct Answer: B. Split traffic between versions using weights.

Explanation: When deploying a new version of a service, it's risky to expose all users to the new version right away. By using traffic management, you can distribute traffic between multiple backend services based on specified percentages. This allows for a gradual rollout of the new version, ensuring that any potential issues don't affect all users. This approach is commonly used for A/B testing, service migration, and deploying new versions.
Resource: Traffic management overview for global external Application Load Balancers

Question: Which deployment pattern involves performing two identical deployments of your application, where only one version is live at a time?

- A. Recreate deployment
- B. Rolling update deployment
- C. Blue/green deployment
- D. Canary test pattern

Correct Answer: C. Blue/green deployment

Explanation: In a blue/green deployment, two identical deployments of the application are performed. Only one version (either blue or green) is live at a time. After testing, traffic is routed to the new version.
Resource: Application deployment and testing strategies - Google Cloud

Question: You're preparing to launch a revamped version of your application. To ensure a smooth transition and gather performance insights, you want to test the new version against the actual production workload. What's the recommended approach?

- A. Rely solely on synthetic load testing tools.
- B. Use A/B testing with traffic mirroring during deployment.
- C. Temporarily redirect all users to the new version.
- D. Wait for user reviews after the new version is launched.

Correct Answer: B. Use A/B testing with traffic mirroring during deployment.

Explanation: Using A/B testing combined with traffic mirroring ensures that the new version of the application is exposed to real-world traffic conditions. This approach provides valuable insights into the application's performance and behavior under actual production load, allowing for any necessary adjustments before a full-scale release.
Resource: Traffic management overview for global external Application Load Balancers

Question: In which testing pattern do you partially roll out a change and then evaluate its performance against a baseline deployment?

- A. A/B test pattern
- B. Rolling update deployment
- C. Blue/green deployment
- D. Canary test pattern

Correct Answer: D. Canary test pattern
Explanation: In canary testing, a change is partially rolled out and its performance is evaluated against a baseline deployment. This allows for testing on live production traffic and offers a fast rollback option. Resource: Application deployment and testing strategies - Google Cloud

Question: Which testing pattern tests a hypothesis using variant implementations and is used to make business decisions based on the results derived from data?

- A. A/B test pattern
- B. Rolling update deployment

- C. Blue/green deployment
- D. Canary test pattern

Correct Answer: A. A/B test pattern

Explanation: A/B testing tests a hypothesis using variant implementations. It is used to make business decisions based on the results derived from data. In A/B testing, a subset of users is routed to new functionality based on routing rules.
Resource: Application deployment and testing strategies - Google Cloud

Question: In a Blue/Green deployment pattern, what happens to the "Blue" environment after the "Green" environment is made live?

- A. The "Blue" environment is immediately terminated.
- B. The "Blue" environment is used for A/B testing.
- C. The "Blue" environment is kept as a backup.
- D. The "Blue" environment is upgraded to the next version.

Correct Answer: C. The "Blue" environment is kept as a backup.

Explanation: In the Blue/Green deployment pattern, once the "Green" environment is made live, the "Blue" environment is typically kept as a backup. This allows for a quick rollback if issues arise with the new version.
Resource: Application deployment and testing strategies - Google Cloud

Question: What is the primary purpose of shadow testing in deployment patterns?

- A. To release a new version to all users immediately.
- B. To test the new version with real-world traffic without impacting user requests.
- C. To gradually roll out Version 2 and replace Version 1.
- D. To terminate Version 1 and roll out Version 2.

Correct Answer: B. To test the new version with real-world traffic without impacting user requests.

Explanation: With shadow testing, a new version is deployed and run alongside the current version in such a way that the new version is hidden from the users. Incoming requests are mirrored and replayed in a test environment, either in real time or asynchronously.
Resource: Application deployment and testing strategies - Google Cloud

Question: In which deployment pattern is Version 2 released and receives real-world traffic without affecting user requests?

- A. Canary deployment
- B. Shadow test pattern
- C. A/B test pattern
- D. Blue/green deployment

Correct Answer: B. Shadow test pattern

Explanation: The shadow test pattern involves deploying and running a new version in such a way that it receives real-world traffic but remains hidden from users. This allows for testing the new version's performance and behavior without impacting user requests.
Resource: Application deployment and testing strategies - Google Cloud

Question: You've noticed that certain problems in your application only become evident when it starts handling real-world traffic after deployment. To minimize the number of affected users and the overall impact, which deployment approach would be most suitable?

- A. Blue/Green Deployment
- B. Canary Deployment
- C. Rolling Deployment
- D. Feature Toggles

Correct Answer: B. Canary Deployment

Explanation: Canary deployment is a strategy where a new version of the application is gradually rolled out to a small subset of users before making it available to everyone. This allows for testing the new version in a real-world environment with actual users, but with reduced risk.
Resource:Application deployment and testing strategies - Google Cloud

Question: In the context of deploying applications on Google Cloud, if you want to use live traffic to gather performance metrics for both new and existing applications and test against the full production load prior to launch, which deployment technique should you consider?

- A. Blue/Green Deployment
- B. Canary Deployment
- C. A/B testing with traffic mirroring
- D. Rolling Deployment

Correct Answer: C. A/B testing with traffic mirroring

Explanation: A/B testing with traffic mirroring allows you to divert a portion of your live traffic to a different version of your application to gather performance metrics. This technique is especially useful when you want to test how the application behaves under real-world conditions with actual user traffic.
Resource: Advanced traffic management overview - Google Cloud