

**Status** Finished**Started** Saturday, 3 May 2025, 10:11 AM**Completed** Saturday, 3 May 2025, 10:18 AM**Duration** 7 mins 31 secs**Grade** 5.00 out of 5.00 (100%)**Question 1**

Correct

Mark 0.25 out of 0.25

Which of the following best describes Continuous Integration?

- ☐ a. Writing code in isolation from others
- ☒ b. Frequently merging code changes into a shared repository ✓
- ☐ c. Manually testing every code change
- ☐ d. Automatically deploying code to production

Your answer is correct.

The correct answer is: Frequently merging code changes into a shared repository

Question 2

Correct

Mark 0.25 out of 0.25

In microservices architecture, what should be tested during integration testing?

- ☒ a. Communication between services and database interactions ✓
- ☐ b. Commit history
- ☐ c. Code formatting
- ☐ d. UI animations

Your answer is correct.

The correct answer is: Communication between services and database interactions

Question 3

Correct

Mark 0.25 out of 0.25

What's the purpose of automated testing in a CI/CD pipeline?

- ☒ a. To verify code quality and functionality before deployment ✓
- ☐ b. To reduce developer workload permanently
- ☐ c. To make code fail intentionally
- ☐ d. To delay production release



Your answer is correct.

The correct answer is: To verify code quality and functionality before deployment

Question 4

Correct

Mark 0.25 out of 0.25

What does rate limiting help protect a service from?

- ☐ a. Serverless function timeouts
- ☐ b. Memory leaks
- ☒ c. Receiving too many requests in a short time ✓
- ☐ d. Logging too much information

Your answer is correct.

The correct answer is: Receiving too many requests in a short time

Question 5

Correct

Mark 0.25 out of 0.25

What is the main difference between authentication and authorization?

- ☒ a. Authentication verifies identity, authorization checks permissions ✓
- ☐ b. Authentication checks permissions, authorization verifies identity
- ☐ c. Both mean the same
- ☐ d. Authentication applies to services only

Your answer is correct.

The correct answer is: Authentication verifies identity, authorization checks permissions

Question 6

Correct

Mark 0.25 out of 0.25

Which deployment strategy releases the new version to a small percentage of users before full rollout?

- ☐ a. Blue-Green Deployment
- ☐ b. Rolling Deployment
- ☒ c. Canary Deployment ✓
- ☐ d. Recreate Deployment

Your answer is correct.

The correct answer is: Canary Deployment

Question 7

Correct

Mark 0.25 out of 0.25

What is a key requirement during microservice startup to ensure smooth deployment?

- ☐ a. Manual IP configuration
- ☐ b. UI rendering
- ☐ c. Long startup delays for testing
- ☒ d. Quick initialization and readiness probes ✓

Your answer is correct.

The correct answer is: Quick initialization and readiness probes

Question 8

Correct

Mark 0.25 out of 0.25

Which practice helps in securing source code repositories?

- ☒ a. Enabling multi-factor authentication (MFA) ✓
- ☐ b. Sharing admin access with all team members
- ☐ c. Hardcoding credentials in code
- ☐ d. Disabling version history

Your answer is correct.

The correct answer is: Enabling multi-factor authentication (MFA)

Question 9

Correct

Mark 0.25 out of 0.25

Which pattern helps prevent a failed service from causing repeated failures in dependent services?

- ☐ a. Load Balancer
- ☒ b. Circuit Breaker ✓
- ☐ c. Rate Limiting
- ☐ d. Service Discovery

Your answer is correct.

The correct answer is: Circuit Breaker

Question 10

Correct

Mark 0.25 out of 0.25

What is the main goal of zero-downtime deployment?

- ☒ a. Avoiding service interruption during deployment ✓
- ☐ b. Reducing CPU usage
- ☐ c. Improving UI design
- ☐ d. Increasing logging verbosity

Your answer is correct.

The correct answer is: Avoiding service interruption during deployment

Question 11

Correct

Mark 0.25 out of 0.25

What is a common cause of cascading failures in a microservices architecture?

- ☒ a. Synchronous communication without timeouts ✓
- ☐ b. Too many load balancers
- ☐ c. Excessive logging
- ☐ d. Using REST APIs

Your answer is correct.

The correct answer is: Synchronous communication without timeouts

Question 12

Correct

Mark 0.25 out of
0.25

What does the “Single Service Instance per Host” model imply?

- ☐ a. A single server runs all services
- ☒ b. Each host runs exactly one instance of a service ✓
- ☐ c. Services are not deployed on hosts
- ☐ d. Services use static IPs only

Your answer is correct.

The correct answer is: Each host runs exactly one instance of a service

Question 13

Correct

Mark 0.25 out of
0.25

What is the purpose of using retries in service communication?

- ☐ a. To ensure requests are logged
- ☐ b. To overload the service intentionally
- ☒ c. To handle transient failures by reattempting the request ✓
- ☐ d. To introduce delay in processing

Your answer is correct.

The correct answer is: To handle transient failures by reattempting the request

Question 14

Correct

Mark 0.25 out of
0.25

In the “Multiple Static Services per Host” model, what’s a key limitation?

- ☐ a. Load balancing is built-in
- ☐ b. No need for containerization
- ☒ c. Deployment is tightly coupled to the host ✓
- ☐ d. Dynamic scheduling is possible

Your answer is correct.

The correct answer is: Deployment is tightly coupled to the host

Question 15

Correct

Mark 0.25 out of 0.25

What is a container in the context of microservices?

- ☒ a. A lightweight, isolated environment to run software ✓
- ☐ b. A form of database
- ☐ c. A networking protocol
- ☐ d. A physical server

Your answer is correct.

The correct answer is: A lightweight, isolated environment to run software

Question 16

Correct

Mark 0.25 out of 0.25

What is a drawback of the “Single Service Instance per Host” model?

- ☒ a. Poor resource utilization ✓
- ☐ b. Enhanced scaling
- ☐ c. Better fault tolerance
- ☐ d. Easy to manage

Your answer is correct.

The correct answer is: Poor resource utilization

Question 17

Correct

Mark 0.25 out of 0.25

Which repository pattern is more suitable for highly independent teams working on separate services?

- ☒ a. Multi-repo ✓
- ☐ b. Mono-repo
- ☐ c. Git submodules
- ☐ d. Hybrid repo

Your answer is correct.

The correct answer is: Multi-repo

Question 18

Correct

Mark 0.25 out of 0.25

In serverless deployments, how is scaling handled?

- ☐ a. Manually by the admin
- ☐ b. Not supported
- ☒ c. Automatically by the cloud provider based on request volume ✓
- ☐ d. Through container orchestration

Your answer is correct.

The correct answer is: Automatically by the cloud provider based on request volume

Question 19

Correct

Mark 0.25 out of 0.25

Which component is commonly used in a service mesh for proxying traffic between services?

- ☐ a. Load Balancer
- ☒ b. Sidecar Proxy ✓
- ☐ c. API Gateway
- ☐ d. Firewall

Your answer is correct.

The correct answer is: Sidecar Proxy

Question 20

Correct

Mark 0.25 out of 0.25

What role does a load balancer play in microservice architecture?

- ☒ a. It distributes incoming traffic across multiple service instances ✓
- ☐ b. It directly stores logs
- ☐ c. It encrypts data
- ☐ d. It compiles services

Your answer is correct.

The correct answer is: It distributes incoming traffic across multiple service instances

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