**DevOps Quiz - Multiple Choice Questions (MCQ) (Answer and explanation)**

**1. What does 'DevOps' stand for?**

**a) Development Operations**

b) Device Operations

c) Deviant Operations

d) Developer's Operations

DevOps combines "Development" and "Operations", emphasizing collaboration between developers and IT operations teams.

**2. Which tool is commonly used for Continuous Integration and Continuous Deployment (CI/CD)?**

**a) Jenkins**

b) Docker

c) Git

d) Ansible

a) Jenkins

*Jenkins* is a widely used open-source tool that facilitates both Continuous Integration and Continuous Deployment.

**3. What does CI in CI/CD stand for?**

a) Continuous Input

**b) Continuous Integration**

c) Continuous Improvement

d) Continuous Installation

CI stands for *Continuous Integration*, a practice where developers integrate code into a shared repository frequently.

**4. Which of the following is NOT a configuration management tool?**

a) Chef

b) Puppet

c) Ansible

**d) Jira**

While Chef, Puppet, and Ansible are configuration management tools, *Jira* is an issue and project tracking tool.

**5. What is Docker primarily used for?**

a) Version Control

b) Continuous Integration

**c) Containerization**

d) Project Management

[**Docker**](https://www.javaguides.net/p/docker-tutorials-and-guides.html) is primarily known for creating, deploying, and running applications in containers.

**6. What's the primary purpose of Kubernetes?**

a) Source code management

b) Automated testing

**c) Container orchestration**

d) Configuration management

*Kubernetes* is a platform designed to manage containerized workloads and services.

**7. Which tool is mainly used for version control in DevOps?**

a) Jenkins

b) Docker

c) Kubernetes

**d) Git**

*Git* is a distributed version control system commonly used in the DevOps world.

**8. What does IaC stand for in DevOps?**

a) Infrastructure as Computer

b) Integration and Configuration

**c) Infrastructure as Code**

d) Input and Compute

Infrastructure as Code is a method to provision and manage IT infrastructure through code and automation.

**9. Which of the following is a benefit of implementing DevOps?**

a) Slower release cycles

b) Less collaboration between teams

c**) Reduced recovery time after failures**

d) Increased infrastructure cost

DevOps practices like CI/CD allow for quicker detection and recovery from errors, reducing downtime.

**10. In DevOps, what does "shift left" refer to?**

a) Delaying testing to the end of the development cycle

**b) Incorporating operations earlier in the development cycle**

c) Left-aligning code

d) Outsourcing operations

"Shift left" emphasizes incorporating testing and other operations earlier in the software development process.

**11. Which of the following represents a cultural aspect of DevOps?**

a) Using Docker

b) Automation scripts

**c) Collaboration and sharing between teams**

d) Writing Infrastructure as Code

While tools and automation play a role in DevOps, its foundation lies in fostering a culture of collaboration and transparency between development and operations teams.

**12. What is Infrastructure as Code (IaC)?**

**a) Writing scripts (code) to automate infrastructure deployment**

b) Using code repositories to store infrastructure information

c) Documenting infrastructure requirements

d) Writing application code that supports multiple infrastructure setups

Infrastructure as Code (IaC) involves managing and provisioning infrastructure through machine-readable definition files, automating the process.

**13. In which phase are automated tests primarily run in a CI/CD pipeline?**

a) Build

**b) Test**

c) Deploy

d) Monitor

In a CI/CD pipeline, once the code is built (compiled and packaged), it moves to the testing phase, where automated tests are executed.

**14. What does the acronym "CALMS" stand for in the context of DevOps?**

a) Code, Automation, Logs, Monitoring, Security

**b) Culture, Automation, Lean, Measurement, Sharing**

c) Continuous Application Lifecycle Management System

d) Code, Automation, Lifecycle, Monitoring, Systems

CALMS represents the five pillars of DevOps – Culture, Automation, Lean, Measurement, and Sharing.

**15. Which tool is used for configuration management?**

a) Git

b) Nagios

**c) Ansible**

d) Jira

Ansible is a popular tool for configuration management, automating tasks such as software configuration and deployment.

**16. Which practice involves deploying code into a production-like environment before actual production?**

a) Continuous Testing

b) Canary Release

**c) Blue-Green Deployment**

d) Continuous Deployment

Blue-Green Deployment involves two parallel environments - Blue (current production) and Green (clone of production). New code is deployed to the Green environment and, once tested and verified, traffic is switched to it.

**17. What is a Version Control System (VCS) primarily used for?**

a) Infrastructure monitoring

b) Configuration management

**c) Tracking changes to source code**

d) Application deployment

A VCS like Git allows developers to track and manage changes to source code, facilitating collaboration and version management.

**18. Which tool is often used for orchestrating cloud infrastructure as code?**

a) Jenkins

b) Grafana

**c) Terraform**

d) Docker

Terraform is a widely-used tool for defining and providing cloud infrastructure using a declarative configuration language. It enables Infrastructure as Code (IaC) practices for cloud resources.

**19. Which term describes a method where developers merge their changes back to the main branch multiple times a day?**

a) Continuous Deployment

**b) Continuous Integration**

c) Continuous Monitoring

d) Continuous Feedback

Continuous Integration (CI) is a DevOps practice where developers integrate code into a shared repository several times a day. It encourages more frequent code integrations and testing.

**20. Which of the following tools is primarily associated with monitoring and visualizing time-series data?**

a) Ansible

b) Git

**c) Grafana**

d) Puppet

Click to View Answer and Explanation

Grafana is an open-source platform for monitoring and observability. It's commonly used to visualize metrics from time-series databases.

**21. What does the term "Immutable Infrastructure" refer to?**

a) Infrastructure that can be easily changed and adapted

**b) Infrastructure components that are never updated once deployed**

c) Frequently changing infrastructure

d) Infrastructure that is resistant to hacker attacks

Immutable Infrastructure refers to an approach where once infrastructure components are deployed, they are never modified. Instead, if changes are needed, new instances are created to replace the old ones.

**22. Which DevOps practice involves automating the provisioning and management of servers?**

a) Continuous Monitoring

b) Continuous Feedback

**c) Configuration Management**

d) Continuous Testing

Configuration Management involves the use of tools and practices to automate the provisioning and management of servers, ensuring that they maintain the desired state over time.

**23. Which DevOps tool is known for its "Infrastructure as Code" capabilities and agentless architecture?**

a) Jenkins

b) Git

c) Puppet

**d) Ansible**

Ansible is known for its Infrastructure as Code capabilities, allowing automation of cloud provisioning, configuration management, and application deployments. It operates on an agentless architecture, communicating via SSH or WinRM.