

Core DevOps Concepts

1. What is DevOps?
 2. What are the benefits of DevOps?
 3. What are the key DevOps principles?
 4. What is the difference between DevOps and Agile?
 5. What is Continuous Integration?
 6. What is Continuous Delivery?
 7. What is Continuous Deployment?
 8. What is the difference between Continuous Delivery and Continuous Deployment?
 9. What are the biggest challenges in implementing DevOps?
 10. What are DevOps anti-patterns?
-

Docker & Containers

11. What is Docker?
 12. What are the advantages of using Docker?
 13. What is the difference between Docker Image and Docker Container?
 14. What is Dockerfile?
 15. How does Docker Compose work?
 16. What is Docker Swarm?
 17. What is the difference between Docker Swarm and Kubernetes?
 18. Explain Docker Architecture.
 19. What are Docker volumes?
 20. How do you optimize a Docker Image?
-

Kubernetes

21. What is Kubernetes?
22. What are the main components of Kubernetes architecture?
23. What is a Pod in Kubernetes?
24. What is a Service in Kubernetes?
25. What is a Namespace in Kubernetes?
26. What is a StatefulSet in Kubernetes?
27. What is a DaemonSet in Kubernetes?
28. What is Helm?
29. What is Kubernetes Ingress?
30. What are Kubernetes Operators?

CI/CD (Continuous Integration & Continuous Deployment)

- 31. What is a CI/CD Pipeline?
 - 32. What is Jenkins?
 - 33. What are Jenkins Pipelines?
 - 34. What is GitLab CI?
 - 35. What is CircleCI?
 - 36. What is ArgoCD?
 - 37. What is Tekton?
 - 38. What are Canary Deployments?
 - 39. What are Blue-Green Deployments?
 - 40. What are Rolling Deployments?
-

Cloud Platforms

- 41. What is Cloud Computing?
 - 42. What are the different types of cloud services?
 - 43. What is AWS (Amazon Web Services)?
 - 44. What is Azure?
 - 45. What is Google Cloud Platform (GCP)?
 - 46. What is a Virtual Private Cloud (VPC)?
 - 47. What is Infrastructure as a Service (IaaS)?
 - 48. What is Platform as a Service (PaaS)?
 - 49. What is Software as a Service (SaaS)?
 - 50. What is Serverless Computing?
-

Infrastructure as Code (IaC)

- 51. What is Infrastructure as Code?
- 52. What is Terraform?
- 53. What is Ansible?
- 54. What is the difference between Ansible and Terraform?
- 55. What are Terraform providers?
- 56. What are Terraform modules?
- 57. What is CloudFormation?
- 58. What is Pulumi?
- 59. What is Chef?

60. What is Puppet?

Monitoring & Logging

- 61. What is monitoring in DevOps?
 - 62. What is ELK Stack?
 - 63. What is Prometheus?
 - 64. What is Grafana?
 - 65. Explain the difference between monitoring and logging.
 - 66. What is Fluentd?
 - 67. What is OpenTelemetry?
 - 68. What is APM (Application Performance Monitoring)?
 - 69. What is log aggregation?
 - 70. How do you set up centralized logging?
-

Security & Compliance

- 71. What is DevSecOps?
 - 72. What is Infrastructure Security?
 - 73. What is Container Security?
 - 74. What is Compliance as Code?
 - 75. What are Security Best Practices in DevOps?
 - 76. What is Zero Trust Security?
 - 77. What is SSL/TLS?
 - 78. What is a Web Application Firewall (WAF)?
 - 79. What is Network Segmentation?
 - 80. What is Secrets Management?
-

Linux Administration

- 81. What are the basic Linux commands every DevOps engineer should know?
- 82. What is Shell Scripting?
- 83. What is systemd?
- 84. How do you manage services in Linux?
- 85. What is Linux File System Hierarchy?
- 86. How do you troubleshoot high CPU/memory usage in Linux?
- 87. What is process management in Linux?

- 88. What is a cron job?
 - 89. How do you manage permissions in Linux?
 - 90. What is SELinux?
-

Version Control

- 91. What is Git?
 - 92. What is Git Branching Strategy?
 - 93. What is Git Flow?
 - 94. What is Trunk Based Development?
 - 95. How to handle merge conflicts in Git?
 - 96. What are Git hooks?
 - 97. What is a Git submodule?
 - 98. What is Git rebase vs merge?
 - 99. How do you squash commits in Git?
 - 100. What is GitOps?
-

Scalability & High Availability

- 101. What is Scalability in DevOps?
 - 102. What is High Availability?
 - 103. What is Load Balancing?
 - 104. What is Auto Scaling?
 - 105. What is Disaster Recovery?
 - 106. What is multi-region deployment?
 - 107. What is horizontal scaling vs vertical scaling?
 - 108. What is an active-active vs active-passive setup?
 - 109. What is database sharding?
 - 110. What is replication in databases?
-

Backup & Disaster Recovery

- 111. What is Backup and Disaster Recovery?
- 112. What are different types of backups?
- 113. What is RPO and RTO?
- 114. What is Business Continuity Planning?
- 115. What are backup best practices?

Cloud Native Architecture

- 116. What is Cloud Native Architecture?
 - 117. What are Microservices?
 - 118. What is Service Mesh?
 - 119. What is Event-Driven Architecture?
 - 120. What are the 12-Factor App principles?
-

API Gateway & Service Mesh

- 121. What is an API Gateway?
 - 122. What are the benefits of using API Gateway?
 - 123. What is API Security?
 - 124. What is Rate Limiting?
 - 125. What is API Documentation?
-

Cloud Cost Optimization

- 126. What is Cloud Cost Optimization?
 - 127. What are Reserved Instances?
 - 128. What is Spot Instance pricing?
 - 129. How to implement cost tagging strategy?
 - 130. What are cost allocation reports?
-

Site Reliability Engineering (SRE)

- 131. What is Site Reliability Engineering?
 - 132. What are Service Level Objectives (SLOs)?
 - 133. What are Service Level Indicators (SLIs)?
 - 134. What is Error Budget?
 - 135. What is Toil in SRE?
-

DevOps Metrics & KPIs

- 136. What are DevOps Metrics?
 - 137. What is Mean Time to Recovery (MTTR)?
 - 138. What is Change Failure Rate?
 - 139. What is Deployment Frequency?
 - 140. What is Lead Time for Changes?
-

Incident Management

- 141. What is Incident Management?
 - 142. What is an Incident Response Plan?
 - 143. What is Post-Mortem Analysis?
 - 144. What are Incident Severity Levels?
 - 145. What is On-Call Management?
 - 146. What is Incident Escalation?
 - 147. What is Root Cause Analysis (RCA) in Incident Management?
 - 148. What is a War Room in Incident Response?
 - 149. What tools are commonly used for Incident Management?
 - 150. What is Mean Time to Detect (MTTD)?
-

DevOps Culture & Best Practices

- 151. What is DevOps Culture?
 - 152. How do you implement a blameless postmortem?
 - 153. What is Knowledge Sharing in DevOps?
 - 154. How does DevOps improve developer productivity?
 - 155. What are the key components of a high-performing DevOps team?
-

Infrastructure Monitoring & Observability

- 156. What is Observability in DevOps?
- 157. What is the difference between Monitoring and Observability?
- 158. What are the three pillars of Observability?
- 159. What is Distributed Tracing?
- 160. How do you set up alerting in a monitoring system?

Cloud Migration & Modernization

- 161. What is Cloud Migration?
- 162. What are the key Cloud Migration Strategies?
- 163. What is the Lift and Shift approach?
- 164. What is Application Modernization?
- 165. What is a Hybrid Cloud Strategy?

Performance Testing & Optimization

- 166. What is Performance Testing?
- 167. What are the different types of Performance Tests?
- 168. What are the best tools for Performance Testing?
- 169. How do you analyze Performance Test results?
- 170. What is Load Testing vs. Stress Testing?

API Gateway & Service Mesh

- 171. What is a Service Mesh?
- 172. How does Istio work?
- 173. What is Linkerd?
- 174. How does an API Gateway improve security?
- 175. What is Rate Limiting in APIs?

Advanced Container Orchestration

- 176. What is a Kubernetes Custom Resource Definition (CRD)?
 - 177. What is Kubernetes Horizontal Pod Autoscaler (HPA)?
 - 178. What is Kubernetes Vertical Pod Autoscaler (VPA)?
 - 179. What is Kubernetes Cluster Autoscaler?
 - 180. What is a Sidecar Pattern in Kubernetes?
-

Cloud Cost Optimization (Advanced)

- 181. What is FinOps?
 - 182. How does Spot Instance pricing work?
 - 183. What are Cloud Cost Allocation Reports?
 - 184. How do you optimize storage costs in the cloud?
 - 185. What are some real-world cost-saving techniques for Kubernetes clusters?
-

Advanced DevOps Metrics & KPIs

- 186. What is Mean Time Between Failures (MTBF)?
 - 187. What is Change Lead Time?
 - 188. What is Deployment Success Rate?
 - 189. How do you measure DevOps ROI?
 - 190. What are the four key DORA Metrics?
-

Serverless Architecture (Advanced)

- 191. What is Function Cold Start in Serverless?
 - 192. How do you reduce latency in a Serverless function?
 - 193. What is an Event-Driven Serverless Architecture?
 - 194. What is the difference between FaaS and PaaS?
 - 195. How do you handle database connections in a Serverless environment?
-

Advanced DevSecOps & Security

- 196. What is Infrastructure Drift?
- 197. How do you implement secrets management in DevOps?
- 198. What is Role-Based Access Control (RBAC)?
- 199. How does DevSecOps handle compliance requirements?
- 200. What are the key OWASP Top 10 security risks for DevOps?