

# New Exam KCSA Simulator | Reliable KCSA Relevant Exam Dumps: Linux Foundation Kubernetes and Cloud Native Security Associate



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## Linux Foundation KCSA Exam Syllabus Topics:

Topic	Details
Topic 1	<ul style="list-style-type: none"><li>• Overview of Cloud Native Security: This section of the exam measures the skills of a Cloud Security Architect and covers the foundational security principles of cloud-native environments. It includes an understanding of the 4Cs security model, the shared responsibility model for cloud infrastructure, common security controls and compliance frameworks, and techniques for isolating resources and securing artifacts like container images and application code.</li></ul>
Topic 2	<ul style="list-style-type: none"><li>• Kubernetes Cluster Component Security: This section of the exam measures the skills of a Kubernetes Administrator and focuses on securing the core components that make up a Kubernetes cluster. It encompasses the security configuration and potential vulnerabilities of essential parts such as the API server, etcd, kubelet, container runtime, and networking elements, ensuring each component is hardened against attacks.</li></ul>
Topic 3	<ul style="list-style-type: none"><li>• Kubernetes Threat Model: This section of the exam measures the skills of a Cloud Security Architect and involves identifying and mitigating potential threats to a Kubernetes cluster. It requires understanding common attack vectors like privilege escalation, denial of service, malicious code execution, and network-based attacks, as well as strategies to protect sensitive data and prevent an attacker from gaining persistence within the environment.</li></ul>
Topic 4	<ul style="list-style-type: none"><li>• Compliance and Security Frameworks: This section of the exam measures the skills of a Compliance Officer and focuses on applying formal structures to ensure security and meet regulatory demands. It covers working with industry-standard compliance and threat modeling frameworks, understanding supply chain security requirements, and utilizing automation tools to maintain and prove an organization's security posture.</li></ul>

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### Linux Foundation Kubernetes and Cloud Native Security Associate Sample Questions (Q41-Q46):

#### NEW QUESTION # 41

Which technology can be used to apply security policy for internal cluster traffic at the application layer of the network?

- A. Network Policy
- **B. Service Mesh**
- C. Container Runtime
- D. Ingress Controller

**Answer: B**

Explanation:

- \* Service Mesh (e.g., Istio, Linkerd, Consul): operates at Layer 7 (application layer), enforcing policies like mTLS, authorization, and routing between services.
- \* NetworkPolicy: works at Layer 3/4 (IP/port), not Layer 7.
- \* Ingress Controller: handles external traffic ingress, not internal service-to-service traffic.
- \* Container Runtime: responsible for running containers, not enforcing application-layer security.

Exact extract (Istio docs):

\* "Istio provides security by enforcing authentication, authorization, and encryption of service-to-service communication."

References:

Kubernetes Docs - Network Policies: <https://kubernetes.io/docs/concepts/services-networking/network-policies/> Istio Security

Docs: <https://istio.io/latest/docs/concepts/security/>

#### NEW QUESTION # 42

Which information does a user need to verify a signed container image?

- A. The image's SHA-256 hash and the private key of the signing authority.
- **B. The image's digital signature and the public key of the signing authority.**
- C. The image's digital signature and the private key of the signing authority.
- D. The image's SHA-256 hash and the public key of the signing authority.

**Answer: B**

Explanation:

- \* Container image signing (e.g., with cosign, Notary v2) uses asymmetric cryptography.
- \* Verification process:
  - \* Retrieve the image's digital signature.
  - \* Validate the signature with the public key of the signer.
- \* Exact extract (Sigstore Cosign Docs):
  - \* "Verification of an image requires the signature and the signer's public key. The signature proves authenticity and integrity."
  - \* Why others are wrong:
    - \* A & B: The private key is only used by the signer, never shared.
    - \* C: The hash alone cannot prove authenticity without the digital signature.

References:

Sigstore Cosign Docs: <https://docs.sigstore.dev/cosign/overview>

#### NEW QUESTION # 43

Which of the following is a valid security risk caused by having no egress controls in a Kubernetes cluster?

- A. Increased attack surface
- B. Unauthorized access to external resources
- C. Data exfiltration
- D. Denial of Service

**Answer: C**

Explanation:

- \* Egress Network Policies restrict outbound traffic from Pods.
- \* Without egress restrictions, a compromised Pod could exfiltrate sensitive data (secrets, logs, customer data) to an attacker-controlled server.
- \* Exact extract (Kubernetes Docs - Network Policies):
- \* "Egress rules control outbound connections from Pods. Without such restrictions, compromised workloads can connect freely to external endpoints."
- \* Other options clarified:
- \* A: DoS is more about flooding, not egress absence.
- \* C: "Increased attack surface" is vague but not the main risk.
- \* D: True in a sense, but the precise and most common risk is data exfiltration.

References:

Kubernetes Docs - Network Policies: <https://kubernetes.io/docs/concepts/services-networking/network-policies/>

#### NEW QUESTION # 44

What is Grafana?

- A. A platform for monitoring and visualizing time-series data.
- B. A cloud-native distributed tracing system for monitoring microservices architectures.
- C. A cloud-native security tool for scanning and detecting vulnerabilities in Kubernetes clusters.
- D. A container orchestration platform for managing and scaling applications.

**Answer: A**

Explanation:

- \* Grafana: An open-source analytics and visualization platform widely used with Prometheus, Loki, etc.
- \* Exact extract (Grafana Docs): "Grafana is the open-source analytics and monitoring solution for every database. It allows you to query, visualize, alert on, and understand your metrics no matter where they are stored."
- \* A is wrong: That describes Jaeger (distributed tracing).
- \* B is wrong: That's Kubernetes itself.
- \* D is wrong: That's Trivy/Aqua/Prisma type tools.

References:

Grafana Docs: <https://grafana.com/docs/grafana/latest/>

#### NEW QUESTION # 45

Which of the following is a control for Supply Chain Risk Management according to NIST 800-53 Rev. 5?

- A. Supply Chain Risk Management Plan
- B. System and Communications Protection
- C. Incident Response
- D. Access Control

**Answer: A**

Explanation:

- \* NIST SP 800-53 Rev. 5 introduces a dedicated family of controls called Supply Chain Risk Management (SR).
- \* Within SR, SR-2 (Supply Chain Risk Management Plan) is a specific control.
- \* Exact extract from NIST 800-53 Rev. 5:
- \* "The organization develops and implements a supply chain risk management plan for the system, system component, or system service."
- \* While Access Control, System and Communications Protection, and Incident Response are control families, the correct supply chain-specific control is the Supply Chain Risk Management Plan (SR-2).

