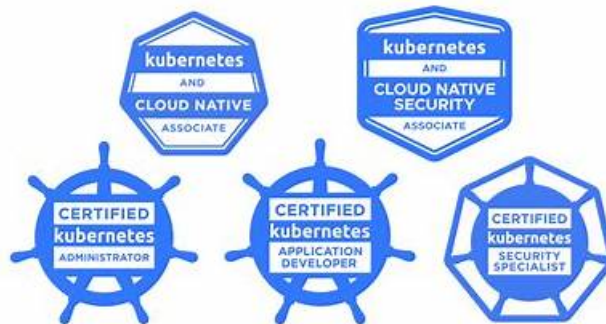


# How to Get the Linux Foundation KCSA Certification within the Target Period?



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## Linux Foundation KCSA Exam Syllabus Topics:

| Topic   | Details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Topic 1 | <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>                                  |
| 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>Platform Security: This section of the exam measures the skills of a Cloud Security Architect and encompasses broader platform-wide security concerns. This includes securing the software supply chain from image development to deployment, implementing observability and service meshes, managing Public Key Infrastructure (PKI), controlling network connectivity, and using admission controllers to enforce security policies.</li></ul>                             |

>> Sample KCSA Questions Answers <<

**100% Pass Linux Foundation - KCSA - Linux Foundation Kubernetes and Cloud Native Security Associate –Valid Sample Questions Answers**

As a working person, the Linux Foundation KCSA practice exam will be a great help because you are left with little time to prepare for the Linux Foundation KCSA certification exam which you cannot waste to make time for the Linux Foundation KCSA Exam Questions. You can find yourself sitting in your dream office and enjoying the new opportunity.

## Linux Foundation Kubernetes and Cloud Native Security Associate Sample Questions (Q22-Q27):

### NEW QUESTION # 22

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. Access Control
- C. System and Communications Protection
- D. Incident Response

**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).

References:

NIST SP 800-53 Rev. 5 - Security and Privacy Controls for Information Systems and Organizations:

<https://csrc.nist.gov/publications/detail/sp/800-53/rev-5/final>

### NEW QUESTION # 23

Which standard approach to security is augmented by the 4C's of Cloud Native security?

- A. Zero Trust
- B. Secure-by-Design
- C. Least Privilege
- D. Defense-in-Depth

**Answer: D**

Explanation:

\* The 4C's model (Cloud, Cluster, Container, Code) is presented in the official Kubernetes documentation as a layered model that explicitly maps to defense-in-depth.

\* Exact extracts from Kubernetes docs (security overview):

\* "The 4C's of Cloud Native Security are Cloud, Clusters, Containers, and Code."

\* "You can think of the 4C's as a layered approach to security; applying security measures at each layer reduces risk."

\* "This layered approach is commonly known as defense in depth."

References:

Kubernetes Docs - Security overview #The 4C's of Cloud Native Security: <https://kubernetes.io/docs/concepts/security/overview/#the-4cs-of-cloud-native-security>

### NEW QUESTION # 24

In a Kubernetes environment, what kind of Admission Controller can modify resource manifests when applied to the Kubernetes API to fix misconfigurations automatically?

- A. ValidatingAdmissionController
- B. ResourceQuota
- C. PodSecurityPolicy
- D. MutatingAdmissionController

**Answer: D**

Explanation:

- \* Kubernetes Admission Controllers can either validate or mutate incoming requests.
- \* Mutating Admission Webhook (Mutating Admission Controller):
- \* Can modify or mutate resource manifests before they are persisted in etcd.
- \* Used for automatic injection of sidecars (e.g., Istio Envoy proxy), setting default values, or fixing misconfigurations.
- \* Validating Admission Webhook (Validating Admission Controller): only allows/denies but does not change requests.
- \* PodSecurityPolicy: deprecated; cannot mutate requests.
- \* ResourceQuota: enforces resource usage, but does not mutate manifests.

Exact Extract:

"Mutating admission webhooks are invoked first, and can modify objects to enforce defaults.  
Validating admission webhooks are invoked second, and can reject requests to enforce invariants."  
"

References:

Kubernetes Docs - Admission Controllers: <https://kubernetes.io/docs/reference/access-authn-authz/admission-controllers/>

Kubernetes Docs - Admission Webhooks: <https://kubernetes.io/docs/reference/access-authn-authz/extensible-admission-controllers/>

### NEW QUESTION # 25

Why does the default base64 encoding that Kubernetes applies to the contents of Secret resources provide inadequate protection?

- A. Base64 encoding relies on a shared key which can be easily compromised.
- B. Base64 encoding is vulnerable to brute-force attacks.
- C. Base64 encoding is not supported by all Secret Stores.
- **D. Base64 encoding does not encrypt the contents of the Secret, only obfuscates it.**

**Answer: D**

Explanation:

- \* Kubernetes stores Secret data as base64-encoded strings in etcd by default.
- \* Base64 is not encryption- it is a simple encoding scheme that merely obfuscates data for transport and storage. Anyone with read access to etcd or the Secret manifest can easily decode the value back to plaintext.
- \* For actual protection, Kubernetes supports encryption at rest (via encryption providers) and external Secret management (Vault, KMS, etc.).

References:

Kubernetes Documentation - Secrets

CNCF Security Whitepaper - Data protection section: highlights that base64 encoding does not protect data and encryption at rest is recommended.

### NEW QUESTION # 26

A cluster is failing to pull more recent versions of images from k8s.gcr.io. Why may this be?

- A. The authentication credentials for accessing k8s.gcr.io are incorrectly scoped.
- **B. The container image registry k8s.gcr.io has been deprecated.**
- C. There is a bug in the container runtime or the image pull process.
- D. There is a network connectivity issue between the cluster and k8s.gcr.io.

**Answer: B**

Explanation:

- \* k8s.gcr.io was the historic Kubernetes image registry.
- \* It has been deprecated and replaced with registry.k8s.io.
- \* Exact extract (Kubernetes Blog):
- \* "The k8s.gcr.io image registry will be frozen from April 3, 2023 and fully deprecated. All Kubernetes project images are now served from registry.k8s.io."
- \* Pulling newer versions from k8s.gcr.io fails because the registry no longer receives updates.

References:

