TechSolutions™

Certified Kubernetes Security Specialist (CKS)

Ratheesh Kumar

Cloud & DevOps Expert with **14+ Years of Experience** |
Founder, TechSolutions | Kerala

+91 94463 30906

www.ratheeshtech.com

ratheesh@ratheeshtech.com

Introduction:

- Course introductions
- Certification details

Kubernetes Attack Surface:

- Attack
- Cloud Native security

Cluster Setup and hardening :

- CIS Benchmark Assessment tool
- Kube bench
- Kubernetes Security Primitives
- Service Accounts
- TLS Introductions
- TLS Basics
- TLS in Kubernetes
- TLS in Kubernetes Certificate creations
- Kubeconfig
- Authorization
- RBAC
- Cluster Roles and Role Bindings
- Kubelet Security
- Kubectl Proxy & Port Forwarding
- Kubernetes Dashboards
- Securing Kubernetes Dashboards
- Cluster Upgrade process
- Network Policy
- Ingress
- Docker Securing the Daemon

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System Hardening:

- Least Privilege Principle
- Limit Node Access
- SSH Hardening
- Privilege Escalation in Linux
- Remove Obsolete Packages and Services
- Restricts kernel Modules
- Minimize IAM Role
- Minimize external access to the network
- UFW Firewall Basics
- Linux Syscalls
- AquaSec Tracee
- Implement Seccomp in Kubernetes
- AppArmor
- Create AppArmor Profiles
- AppArmor in Kubernetes

Minimize Microservice Vulnerabilities :

- Security Contexts
- Admission Controllers
- Validating and Mutating Admission controllers
- Pod security Policies
- OPA in Kubernetes
- Manage Kubernetes secretes
- Container Sandboxing
- gVisor
- Kata Containers
- Runtime Classes
- Implementing POD to POD encryption by use of mTLS

Supply Chain Security:

- Minimize base image footprint
- Image security
- Whitelist Allowed Registries
- Monitoring, Logging and Runtime Security:
- Perform behavioral analytics of syscall process
- Falco Overview and Installation
- Use Falco to Detect Threats
- Falco Configuration Files
- Mutable vs Immutable Infrastructure
- Use Audit Logs to monitor access

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