Kubernetes CKA Advanced

Durée: 2 Jours **Réf de cours: GKKUBCKAA**

Résumé:

This Kubernetes CKA Advanced training takes a deeper look at the design, management, and control of a Kubernetes cluster landscape: at the level of an enterprise;on the basis of self-hosting;from a Cloud-Native perspective.
The training is based on working examples, which are executed as much as possible by the participants themselves.
The training is very suitable for Kubernetes Administrators and Engineers who are interested in how to deal with business issues at the enterprise level:Kubernetes & Cloud-Native architecture choices;Policies and Auditing;Monitoring and Logging;Security: both broadly and with regard to advanced topics;Automation;and Control over Kubernetes;
By learning generic Kubernetes for Self-Hosting you are taught skills and understanding of Kubernetes that a participant can easely self reapply, or translate to: other kubernetes platforms, or managed hosting. Were the platforms are Openshift, Tanzu, Rancer, and Managed-Hosting is hosting on CKE, AKS and EKS.

Public visé:

The training is mainly meant for: Engineers responsible for designing, setting up, or managing Kubernetes clusters.
The level of entry is: experienced with the Kubernetes Fundamentals.

Objectifs pédagogiques:

- The hands-on learning of Kubernetes at Expert Level, using examples that are working and are realistic for a companies daily it practise, on bare metal (self-hosting).
- After this training, the participant has the basic knowledge to set up and use Kubernetes on both on-premise and managed-hosting.
- After this training, the participant has insight into the technology, possibly different Cloud Native alternatives, and different architecture choices;
- Based on working and elaborated expert examples the participant can after the training, start with introducing Kubernetes expert parts in their own organization or extend solutions based on obtained examples.

Pré-requis:

Having several years of experience as an engineer and being able to read code are qualities that make that someone has more insight into what is happening and keeps a better overview of what is going on in the training. A lot of work is done with the command-line (shell) and a variety of programming languages and containers pass by in exercises such as: Go, NodeJs, Angular, JAVA, Ubuntu, Debian.

Minimum dexterity/basic knowledge of linux command-line (Bash, Linux commands), Private Keys and Public Keys are required to follow the pace of this training.

Test et certification

English:

An examination or certification does not apply to this training course.

Après cette formation, nous vous conseillons le(s) module(s) suivant(s):

The following is recommended for further study:

- Kubernetes Developer Advanced (GKKUBCKADA)

Contenu:

The number of topics available in the training as choice modules is more than can be covered during the training. For each training, the trainer decides in consultation with the group which topics will be covered in the training. Sometimes this can mean that the group decides on day 2:

1. to work with different components;

2. or to continue less hands-on, so that more material can be covered on a higher level.

The choice of modules goes into depth on Administration Expert parts, by means of exercises that are in line with the daily practice of working with Kubernetes, using working examples.

- Granulair Role-Based Access Control (RBAC) with, Keycloak, Single Sign On;
- Auditing, Policies ; API-Server Central Security: validating ; mutating webhooks, OPA, KRails.
- Central Logging: EVERY Stack;
- Central Monitoring: Prometheus, Graphana;
- (Federated) Storage: Smoke, OpenEBS
- Advanced Security: Encryption at Rest, Sealed Secrets, KMS, Vault, Harbor, Notary, Falco
- Service Mesh: SMI, LinkerD, Istio, OSM, horizontal scaling based on latency (monitoring information);
- Operator ; Controllers (Software) Overview
- Own Custom Resources: advanced WordPress, build your own WordPress operator
- Setup your own secure helmet registry
- Cluster backup ; Generic State Management: Velero, Kube-Backup
- High Available Kubernetes Cluster
- Infrastructure as Code with Terraform

Autres moyens pédagogiques et de suivi:

• Compétence du formateur : Les experts qui animent la formation sont des spécialistes des matières abordées et ont au minimum cinq ans d'expérience d'animation. Nos équipes ont validé à la fois leurs connaissances techniques (certifications le cas échéant) ainsi que leur compétence pédagogique.
• Suivi d'exécution : Une feuille d'émargement par demi-journée de présence est signée par tous les participants et le formateur.
• En fin de formation, le participant est invité à s'auto-évaluer sur l'atteinte des objectifs énoncés, et à répondre à un questionnaire de satisfaction qui sera ensuite étudié par nos équipes pédagogiques en vue de maintenir et d'améliorer la qualité de nos prestations.

Délais d'inscription :

• Vous pouvez vous inscrire sur l'une de nos sessions planifiées en inter-entreprises jusqu'à 5 jours ouvrés avant le début de la formation sous réserve de disponibilité de places et de labs le cas échéant.
• Votre place sera confirmée à la réception d'un devis ou """"booking form""""" signé. Vous recevrez ensuite la convocation et les modalités d'accès en présentiel ou distanciel.
• Attention, si cette formation est éligible au Compte Personnel de Formation, vous devrez respecter un délai minimum et non négociable fixé à 11 jours ouvrés avant le début de la session pour vous inscrire via moncompteformation.gouv.fr.

Accueil des bénéficiaires :

• En cas de handicap : plus d'info sur globalknowledge.fr/handicap
• Le Règlement intérieur est disponible sur globalknowledge.fr/reglement