Kubernetes CKA Advanced

Duration: 2 Days **Course Code: GKKUBCKAA**

Overview:

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.

Target Audience:

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.

Objectives:

- 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.

Prerequisites:

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.

Testing and Certification

English:

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

Follow-on-Courses:

The following is recommended for further study:

- Kubernetes Developer Advanced (GKKUBCKADA)

Content:

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

Further Information:

For More information, or to book your course, please call us on Head Office 01189 123456 / Northern Office 0113 242 5931

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