Architecting with Google Kubernetes Engine

Cursusduur: 3 Dagen Cursuscode: GO6594 Trainingsmethode: Virtual Learning

Beschrijving:

Learn how to deploy and manage containerized applications on Google Kubernetes Engine (GKE).

Learn how to use other tools on Google Cloud that interact with GKE deployments. This course features a combination of lectures, demos, and hands-on labs to help you explore and deploy solution elements—including infrastructure components like pods, containers, deployments, and services—along with networks and application services. You'll also learn how to deploy practical solutions, including security and access management, resource management, and resource monitoring.
Products:
- Google Kubernetes Engine
- Google Cloud networking
- Google Cloud Storage
- Cloud IAM
- Cloud Observability
- Cloud SQL
- Cloud Deploy

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Virtueel en Klassikaal™

Virtueel en Klassikaal™ is een eenvoudig leerconcept en biedt een flexibele oplossing voor het volgen van een klassikale training. Met Virtueel en Klassikaal™ kunt u zelf beslissen of u een klassikale training virtueel (vanuit huis of kantoor)of fysiek op locatie wilt volgen. De keuze is aan u! Cursisten die virtueel deelnemen aan de training ontvangen voor aanvang van de training alle benodigde informatie om de training te kunnen volgen.

Doelgroep:

- Cloud architects, administrators, and SysOps/DevOps personnel.
- Individuals using Google Cloud to create new solutions or to integrate existing systems, application environments, and infrastructure with Google Cloud.

Doelstelling:

- **After this course participants should be able to:**
- Create and manage workloads in Google Kubernetes Engine.
- Explain how pod networking works in Google Kubernetes Engine.
- Define and work with different Kubernetes storage abstractions.
- Describe and manage authentication, authorization, and security in Google Kubernetes Engine.
- Monitor applications running in Google Kubernetes Engine.
- Explore Google Cloud managed storage services options.
- Configure CI/CD pipelines for Google Kubernetes Engine.

Vereiste kennis en vaardigheden:

- Completed “Getting Started with Google Kubernetes Engine” or have equivalent experience

Examens en certificering

None

Vervolgcursussen:

No recommendation

Cursusinhoud:

Module 0: Course Introduction

- Introduce the course goals and preview each section of the course.

Module 1: Workloads: Deployments and Jobs

- Define, configure, inspect, manage, and update Deployments.
- Define what Jobs and CronJobs are in GKE, and explore relevant use cases. Create and run Jobs.
- Explain how to scale clusters manually and automatically.
- Configure node and pod affinity.

Module 2: Google Kubernetes Engine Networking

- Explore Kubernetes networking, including Pod and cluster networking.
- Create services to expose to applications running within Pods.
- Configure load balancers to expose services to external clients. Explore container native load balancing in GKE.
- Configure Google Kubernetes Engine networking.

Module 3: Persistent Data and Storage

- Define and work with Kubernetes storage abstractions.
- Run and maintain sets of pods using StatefulSets.
- Use ConfigMaps to decouple configuration from Pods.
- Manage and store sensitive access and authentication data.
- Configure persistent storage for Google Kubernetes Engine.

Module 4: Access Control and Security in Kubernetes and Google Kubernetes Engine

- Authentication and authorization
- Kubernetes role-based access control
- Workload Identity
- Kubernetes control plane security
- Pod security

Module 5: Google Kubernetes Engine Logging and Monitoring

- Identify the tools included in the Google Cloud Observability .
- Configure the Google Cloud operations suite to monitor and manage the availability and performance.
- Inspect logs using the kubectl command.
- Inspect Kubernetes logs using Google Cloud Observability.
- Configure GKE-native Monitoring and Logging.

Module 6: Using Google Cloud Managed Storage Services with Google Kubernetes Engine

- Contrast managed storage services with self-managed storage.
- Identify use cases for Cloud Storage for Kubernetes applications.
- Compare the range of Google Cloud managed database services.
- Explore Cloud SQL Auth Proxy and how it connects to Cloud SQL from within GKE.
- Use Cloud SQL with Google Kubernetes Engine.

Module 7: Using CI/CD with Google Kubernetes Engine

- Define continuous integration and continuous delivery and identify why it is important.
- Examine CI/CD pipelines and how they can optimize app releases.
- Explore first-party and third-party CI/CD tools supported by Google Cloud.
- Explore Google's best practices for a GKE CI/CD pipeline.

Module 8: Course Summary

- Review the main objectives from each section of the course.

Extra informatie:

Official course book provided to participants

Nadere informatie:

Neem voor nadere informatie of boekingen contact op met onze Customer Service Desk 030 - 60 89 444

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