



## Architecting with Google Compute Engine (GCE)

**Varighed: 3 Days    Kursus Kode: GO5973    Leveringsmetode: Virtuel deltagelse**

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### Beskrivelse:

This three-day instructor-led class introduces participants to the comprehensive and flexible infrastructure and platform services offered by the Google Cloud. Through a combination of presentations, demonstrations, and hands-on labs, participants explore and implement solution elements, including infrastructure components such as networks, systems, and application services. This course also covers the deployment of practical solutions that include secure networking, customer-supplied encryption keys, security and access management, fees and billing, and resource monitoring.

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### Målgruppe:

This class is intended for the following participants: Cloud solution architects, DevOps engineers. People who use the Google Cloud to create new solutions or to integrate existing systems, application environments and infrastructure with the Google Cloud.

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### Agenda:

- This course teaches participants the following skills:
    - Recognize a wide variety of solution domains, use cases, and applications
  - The full range of Google Cloud technologies in their plans.
    - Develop essential skills for managing and administering solutions
  - Methods to develop and implement solutions.
    - Develop knowledge of solution patterns: methods, technologies, and designs used to implement security, scalability, high availability, and other desired qualities.
  - Distinguishing between product features and similar or related technologies.
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### Forudsætninger:

To get the most out of this course, participants should have

- Fundamentals of the Google Cloud or equivalent experience
  - Basic knowledge of command line tools and Linux operating system environments
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## Indhold:

### Module 1: Introduction to the Google Cloud

- Google Cloud Platform Infrastructure (GC)
- Use of GC
- Lab: Console and Cloud Shell
- Demo: Projects
- Lab: Preview of the infrastructure

### Module 2: Virtual Networks

- Virtual Private Cloud (VPC), Projects, Networking, Subnets, IP Addresses, Routing, Firewall Rules
- Subnets for resource management instead of physical network topology
- Lab: Virtual networks
- Lab: Host of the bastion

### Module 3: Virtual Machines

- Calculation engine
- Lab: Creating virtual machines
- Calculation options (vCPU and memory)
- Images
- Common actions of the calculation engine
- Lab: Working with virtual machines
- Essential Cloud Infrastructure: Core Services

### Module 4: Cloud IAM

- Organizations, Roles, Members, Service Accounts, Cloud IAM Best Practices
- Lab: Cloud AMI

### Module 5: Data Storage Services

- Cloud storage
- Lab: Cloud storage
- SQL Cloud
- Lab: SQL cloud
- Cloud Key, Cloud Datastore
- Lab: Cloud data storage
- Bigtable Cloud

### Module 6: Resource Management

- Cloud Resource Manager, Fees, Tags, Names, Billing
- Demo: Billing Administration
- Lab: Examining billing data with BigQuery

### Module 7: Resource Monitoring

- Stackdriver, Monitoring
- Lab: Resource monitoring (Stackdriver)
- Logging, error reporting, tracking, debugging
- Lab: Reporting and debugging bugs (Stackdriver)
- Elastic Cloud Infrastructure: Scaling and Automation

### Module 8: Interconnection networks

- Cloud Virtual Private Network (VPN)
- Lab: Virtual private networks (VPNs)
- Cloud Router, Cloud Interconnect, External Peering, Cloud DNS

### Module 9: Load Balancing

- Managed Instance Groups, HTTPS Load Balancing, Region and Content Based Load Balancing, SSL/TCP Proxy Load Balancing, Network Load Balancing
- Lab: VM automation and load balancing

### Module 10: Self-Scale

- Autoscale, Policies, Configuration
- Lab: Self-scaling

### Module 11: Automating the Infrastructure with Google Cloud APIs

- Infrastructure Automation, Images, Metadata, Scripting, Google Cloud API
- Lab: Automating the Google Cloud API infrastructure

### Module 12: Infrastructure Automation with Deployment Manager

- Deployment Manager, Configuration, Cloud Launcher
- Lab: Implementation manager

### Module 13: Managed Services

- Cloud Dataproc, Cloud Dataflow, BigQuery, Cloud Datalab
- Elastic Cloud Infrastructure: Containers and Services

### Module 14: Application Infrastructure Services

- Cloud Pub/Sub, API Management, Cloud Source Features, Cloud Source Repositories, Specialized APIs

### Module 15: Application Development Services

- Application Engine

### Module 16: Containers

- Containers, Engine Kubernetes, Container Registration
- Lab: Kubernetes load balancing
- Kubernetes engine, application or container engine in Compute Engine?

## Flere Informationer:

For yderligere informationer eller booking af kursus, kontakt os på tlf.nr.: 44 88 18 00

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