

Google Cloud & DevOps



"Change is the end result of all true learning."

ZebLearn is an ISO 9001-2015 Certified Company that is co-founded by highly experienced industry professionals and alumni of top universities. It is headquartered at Noida & It is one of the fastest-growing solution providers in the field of Education, IT, Consulting and Corporate Trainings.



Essential Cloud Infrastructure: Foundation

- ❖Introduction to Google Cloud Platform
- ❖ Google Cloud Platform (GCP) Infrastructure
- **❖**Using GCP
- ❖ Lab: Console and Cloud Shell
- ❖ Demo: Projects
- ❖ Lab: Infrastructure Preview

Virtual Networks

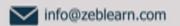
- Virtual Private Cloud (VPC), Projects, Networks, Subnetworks, IP addresses, Routes, Firewall rules
- ❖Subnetworks for resource management instead of physical network topology
- ❖Lab: Virtual Networking
- **❖**Lab: Bastion Host

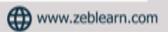
Virtual Machines

- Compute Engine
- ❖ Lab: Creating Virtual Machines
- Compute options (vCPU and Memory)
- **❖**Images
- Common Compute Engine actions
- ❖Lab: Working with Virtual Machines Essential Cloud Infrastructure: Core Services

Cloud IAM

- Organizations, Roles, Members, Service accounts, Cloud IAM best practices
- ❖ Lab: Cloud IAM





Data Storage Services

Cloud Storage

❖Lab: Cloud Storage

❖Cloud SQL

❖ Lab: Cloud SQL

Cloud Spanner, Cloud Data store

❖ Lab: Cloud Data store

Cloud Bigtable

Resource Management

Cloud Resource Manager, Quotas, Labels, Names, Billing

❖ Demo: Billing Administration

Lab: Examining Billing Data with BigQuery

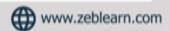
Resource Monitoring

- Stackdriver, Monitoring
- Lab: Resource Monitoring (Stackdriver)
- Logging, Error Reporting, Tracing, Debugging
- ❖ Lab: Error Reporting and Debugging (Stackdriver) Elastic Cloud Infrastructure: Scaling and Automation

Interconnecting Networks

- ❖Cloud Virtual Private Network (VPN)
- ❖Lab: Virtual Private Networks (VPN)
- Cloud Router, Cloud Interconnect, External Peering, Cloud DNS





Load Balancing

- Managed Instance Groups, HTTPS load balancing, Cross-region and contentbased load balancing, SSL proxy/TCP proxy load balancing, Network load balancing
- ❖Lab: VM Automation and Load Balancing

Autoscaling

- Autoscaling, Policies, Configuration
- ❖ Lab: Autoscaling

Infrastructure Automation with Google Cloud Platform APIs

- ❖Infrastructure automation, Images, Metadata, Scripts, Google Cloud API
- ❖Lab: Google Cloud Platform API Infrastructure Automation

Infrastructure Automation with Deployment Manager

- Deployment Manager, Configuration, Cloud Launcher
- ❖Lab: Deployment Manager

Managed Services

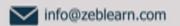
Cloud Dataproc, Cloud Dataflow, BigQuery, Cloud Datalab Elastic Cloud Infrastructure: Containers and Services

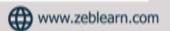
Application Infrastructure Services

Cloud Pub/Sub, API Management, Cloud Functions, Cloud Source Repositories, Specialty APIs

Application Development Services

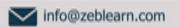
❖App Engine





Containers

- Containers, Kubernetes Engine, Container Registry
- ❖Lab: Kubernetes Load Balancing
- ❖Kubernetes Engine, App Engine, or Containers on Compute Engine?



DevOps Syllabus

DevOps Essentials

- ❖ Why DevOps?
- What is DevOps?
- Agile and DevOps
- DevOps Lifecycle
- DevOps Market Trends
- DevOps Delivery Pipeline
- DevOps Ecosystem & Use Case
- Introduction to Virtualization
- Introduction to Cloud Computing

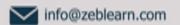
Managing Source Code - Git and GitHub

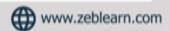
- Overview of Version Control systems
- Central vs Distributed Control systems
- Introduction to Git
- Git file workflow
- Important Git Commands
- Branching and Merging, Stashing, Rebasing, Reverting and Resetting
- Introduction to GitHub
- Using Git and GitHub together

Understanding and using Build tools

- Overview of Various Build tools
- What is Maven
- Maven Plugins
- Maven Archetypes
- Project Object Model (POM)
- Source Control Integration







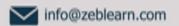
DevOps Syllabus

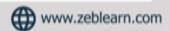
Containerization basics using Docker

- What and Why of Containers
- Difference between VMs and Containers
- Docker Architecture and Components
- Image Distribution using Docker Hub
- Working with Containers and Docker Hub

Continuous Integration using Jenkins

- Overview of Continuous Integration
- Overview of Jenkins
- Jenkins architecture
- Installing and Configuring Jenkins
- Jenkins Management
- Jenkins Build Pipeline





Google Cloud & DevOps Syllabus



