

---

# Docker - Kubernetes Course

Lev Epshtein

---

# About me

## Lev Epshtein

Technology enthusiast with 15 years of industry experience in DevOps and IT. Industry experience with back-end architecture.

Solutions architect with experience in big scale systems hosted on AWS/GCP, end-to-end DevOps automation process.

Cloud DevOps, and Big Data instructor at NAYA and JB.

Certified GCP trainer,

Partner & Solution Architect Consultant at Opsguru.

**lev@opsguru.io**



# Course Contents

## Part I Docker

- Docker Architecture overview
- Docker concepts:
  - Volumes
    - Deme/lab
  - Networks
    - Demo/lab
- Docker Image
  - Image Layer
  - Image management
    - Demo/lab
- Docker security
  - Rootless mode
  - Trusted images (Scan Docker Vulnerabilities)
- Docker Advance
  - Dockerfile best practises
  - Multi-Stage build
    - Demo/Lab
- Docker-compose.yml
  - Demo/Lab
- Introduction to container orchestration with Swarm

---

# Course Contents

## Part II

### Introduction to Microservices

- Microservices architecture vs Monolithic architecture
  - Monolithic to Microservices movement
  - Monolithic to Microservices best practices

# Course Contents

## Part III Kubernetes

- Kubernetes Architecture
  - Cluster Concepts, Design and Node Roles
- Kubernetes objects:
  - Pods
  - Services
  - Labels
  - Namespaces, Annotations
  - Deployments
  - DaemonSets
  - ReplicaSets
  - Jobs
  - ConfigMaps and Secrets
    - Demos/Labs (For each topic)
- Kubernetes Volumes
  - Demo/Lab
- Stateless Set vs Stateful Set
  - Demo/Lab
- Kubernetes RBAC
  - Demo/Lab
- Helm charts
  - Using Helm
  - Helm command
- Monitoring Kubernetes Cluster
  - Prometheus helm operator



# Requirements

- GIT
- Docker Desktop
- IDE (vs code or other)
- Linode account with free tier (Will be exact instraction)



Good Luck