

# DevOps COURSE

While students in large colleges study mass amounts of theory, we offer up to date, fresh and relevant DevOps classes **focused on practical work methods**, **adapted to industry needs** so you can penetrate the job market with enough confidence and the right experience to do your job right.

Our classes are taught by industry experts, those who work simultaneously as interviewers and recruiters in high-tech companies and know exactly what it takes to succeed. Each student learns **exactly** what they need to know for their future jobs – for this reason, all candidates are screened and evaluated before admission in order to guarantee the highest level of learning and ensure future career opportunities.

What does this mean for you? You gain the best hands-on experience and pay less money - two birds, one stone.

# Our knowledge, your future



#### **Private classes**

Our DevOps courses focus on practical knowledge; in class exercises, homework assignments and learning in small groups which allows for personal attention and better understanding of the material.



### **Classes for companies**

We offer customized DevOps courses and workshops according to your company needs. Course materials are suited to your everyday tasks and training requirements.



#### "Preparation for Work" workshop

We can provide career assistance by reviewing your resume, teaching social media networking and defining LinkedIn content for professional "branding" as well as refer you to relevant positions.





## Who is this course for?

DevOps engineer career opportunities are exploding worldwide. Organizations are investing heavily in DevOps capabilities to maintain a cutting edge in the market. DevOps course will be of benefit the following professional roles:

- IT engineers
- Software Developers
- Architects
- Technical Project Managers
- Operations Support
- Deployment engineers
- Dev managers
- Automation testers
- Decision makers





# Learn from industry experts

Industry-recognized DevOps engineer course will teach you current and indemand skills, ensuring you stay ahead of the curve in a fast-changing industry.



# Get hands-on experience

Practical skills are key to succeed and stand out in the market. By working on practical tasks throughout the course, you'll master the skills of a great DevOps engineer.



# Learn amongst professionals

With a network of likewise professionals, enjoy the unique perspective and professional experience of your classmates.



# Connect with the industry

Expect dedicated career guidance, access our industry hiring partners, and find your future employment in DevOps.



# THE INSTRUCTORS



Danny Gitelman
Senior Site Reliability Engineer
Microsoft





Aviel Buskila
DevOps Lead
Navina





**Daniel Gotlieb**DevOps Team Lead **Trigo** 





Modi Tamam
DevOps Leader
Mobileye





Yarin Galmor Senior DevOps Engineer Palo Alto Networks





**Doron Nuni** Senior Engineer Manager **Imperva** 





Eduard Usatchev
DevOps Team Lead
Walmart Global Tech





## **OUR ALUMNI WORK WITH THE BEST**





### **DEVOPS COURSE SYLLABUS**

### **Scripting for DevOps Engineers**

Engineers automating infrastructure and managing configuration need to know how to code. In this module, you will get a hands-on introduction to the Python programming language as well as advanced techniques that will ease your Development learning process.

### **Version Control Using Git**

In this module, you will learn why and how to use a version control system for DevOps. You will use Git to version, manage, merge, diff, and control your infrastructure code.

#### **Linux Fundamentals**

Once you've established a DevOps program, you will learn how to setup, configure, administer, and manage data center and Cloud-based environments. In this module, you will learn the Linux skills required to build these foundations.

#### **Provisioning Resources**

In this module you will learn how to provision resources across over 20 different on-premises and cloud platforms and how to create and provision resources in a hybrid infrastructure.

# **Build Automation and Continuous Integration**

An effective DevOps leverages technology to power continuous integration and a continuous delivery pipeline. In this module, you will learn how to configure Jenkins to run pipelines, code coverage and quality tools, testing suites, and CM and deployment tools.

# Data and Continuous monitoring

In this module, you discover how to collect, analyze, and make decisions using logs and other system-generated data. You ingest and analyze log and other system data to provide operational troubleshooting and decision support capabilities.

### **Working with Containers**

In a DevOps program, Docker containers can be used to simplify deployments. In this module, you will learn how to build containers and compose multi-container applications to support microservices.

#### **Configuration Management**

Automating configuration management tasks helps gain speed, agility, and productivity. In this module, you will learn how to use technology to automate these tasks.



Topic	Description
Introduc	ction to DevOps Concepts
Introduction	<ul><li>What is DevOps?</li><li>Methodologies</li><li>The role of ops in the DevOps world</li></ul>
Scripti	ng for DevOps Engineers
Overview and setup	<ul><li>Intro</li><li>Python environment setup</li><li>IDE setup</li></ul>
Data and control flow	<ul> <li>Data types</li> <li>Syntax</li> <li>Operators</li> <li>Statements</li> <li>Conditions</li> <li>Loops</li> </ul>
Data structures	<ul><li>Array</li><li>List</li><li>Tuple</li><li>Dictionary</li></ul>
Advance Python	<ul> <li>Files I/O</li> <li>Error handling</li> <li>Debug</li> <li>Packages</li> <li>PIP</li> <li>Conventions</li> </ul>
Web fundamentals	<ul><li>Introduction</li><li>Elements</li><li>Attributes</li><li>CSS</li><li>JavaScript</li></ul>



Test automation  API's	<ul> <li>Web drivers</li> <li>Methods</li> <li>Locators</li> <li>Controllers</li> <li>Switch and Navigation</li> <li>Synchronization</li> <li>Overview</li> <li>Protocols</li> <li>Why REST</li> <li>Requests API</li> <li>Rest methods</li> <li>Response codes</li> <li>Structure</li> <li>JSON rules</li> <li>JSON parsing</li> <li>Routing</li> <li>Path params</li> <li>Query params</li> <li>Building an API</li> </ul>
Python project	Build a python RESTful API
Build Automa	tion and Continuous Integration
CI Intro	<ul> <li>Overview</li> <li>Jenkins Introduction</li> <li>Exploring Jenkins dashboard</li> <li>Jenkins Architecture</li> </ul>
Jenkins core	<ul> <li>Setup &amp; configuration</li> <li>Jenkins configurations</li> <li>Pipelines</li> <li>Blue Ocean</li> </ul>
Build jobs	<ul> <li>What are build Jobs</li> <li>Building your build jobs</li> <li>Scheduling</li> <li>Reporting</li> <li>Disabling and deleting jobs</li> <li>Post build actions</li> <li>Pipelines as code</li> </ul>



	OUR KNOWLEDGE, YOUR FUTURE
Jenkins management	<ul> <li>Plugins</li> <li>Log rotation</li> <li>Master-slave architecture</li> <li>Nodes restrictions</li> <li>Reporting</li> </ul>
Jenkins security	<ul><li>Authentication</li><li>Authorization</li><li>Creating users</li><li>Jenkins API</li></ul>
Version Control Using Git	
Git Basics	<ul> <li>What is Git?</li> <li>Git VS. SVN</li> <li>Terminology</li> <li>Setup &amp; configuration</li> <li>Configuring Git</li> <li>Logging</li> <li>Commits</li> <li>Branching</li> <li>Merging</li> <li>Conflicts</li> <li>Reset &amp; Revert</li> <li>Git GUI</li> </ul>
Git & Repository	<ul> <li>Repository overview</li> <li>Remotes</li> <li>Cloning</li> <li>Fetch, pull &amp; push</li> <li>Building your repository</li> <li>Pull Requests</li> <li>Git – Jenkins integration</li> </ul>



Data ar	nd Continuous monitoring
Database	<ul> <li>Overview and setup</li> <li>RDBMS Vs. NoSQL</li> <li>Types</li> <li>Connections</li> <li>Security</li> <li>Schemas and tables</li> <li>Columns properties</li> <li>Data types</li> <li>PyMySQL</li> <li>Cursor</li> <li>DB (CRUD) operations</li> </ul>
Data monitoring	<ul> <li>Monitoring Concepts</li> <li>Introduction to Prometheus stack</li> <li>Prometheus server</li> <li>Metrics collection</li> <li>PromQL</li> <li>Exporters</li> <li>Grafana</li> <li>Alert Manager</li> </ul>
L	inux Fundamentals
Overview	<ul> <li>What is Linux?</li> <li>Distributions</li> <li>Environment setup</li> <li>Oracle VirtualBox &amp; VMware</li> </ul>
Linux commands	<ul> <li>Shell, Bash &amp; Terminal</li> <li>Commands</li> <li>Input / Output</li> <li>Package management</li> <li>Interprocess communication</li> <li>Grep, tail, sed</li> </ul>
Linux system	<ul> <li>System Utilities</li> <li>Linux processes</li> <li>System signals</li> <li>VI &amp; VIM &amp; nano</li> <li>SSH server &amp; client</li> <li>Public and private keys</li> <li>SFTP</li> </ul>



Working with Containers	
Overview	<ul> <li>What is, and why Docker?</li> <li>Use case of Docker</li> <li>Container Life Cycle</li> <li>Docker vs. Virtualization</li> <li>Docker types</li> <li>Environment setup</li> <li>Docker commands</li> </ul>
Docker basic	<ul> <li>Docker architecture</li> <li>YAML</li> <li>Docker images</li> <li>Docker compose</li> <li>Services</li> <li>Docker image download</li> <li>Working multiple containers</li> <li>Contexts</li> <li>Docker HUB</li> </ul>
Docker advanced	<ul> <li>VNC (Virtual Network Computing)</li> <li>Docker-Jenkins integration</li> <li>"Dockerizing" your code</li> <li>Creating a custom image</li> <li>Running a container from the custom image</li> <li>Docker networking</li> <li>Docker volumes</li> <li>Best practices</li> <li>Docker-Jenkins integration</li> <li>Containers dependencies</li> <li>Environment files and configurations</li> </ul>
Container Orchestration - Kubernetes	<ul> <li>Intro to Kubernetes</li> <li>Kubernetes Architecture</li> <li>Environment Setup</li> <li>Kubernetes Components Hierarchy</li> <li>The K8S API</li> </ul>
Working with Kubernetes	<ul> <li>Objects</li> <li>API versions</li> <li>Desire and actual state</li> <li>Pods, ReplicaSets, Deployment</li> <li>Updates and reverts</li> <li>Scaling and auto scaling</li> </ul>



HELM  Hosted Kubernetes	<ul> <li>Services, networking options, Exposing our cluster</li> <li>Config maps</li> <li>Secretes</li> <li>Kubectl</li> <li>Logging</li> <li>Intro to Helm</li> <li>Architecture</li> <li>Developing and managing helm charts</li> <li>Templating</li> <li>Parameterized deployments</li> <li>Debugging</li> <li>Updating charts</li> <li>Requiring dependency as charts</li> <li>Sharing chart with repositories</li> <li>Container Services in the cloud (GCP, AWS)</li> <li>K8S On premise</li> </ul>
CI/CD Project	Build and ship your containerized python application platform using CI/CD pipelines
Pro	ovisioning Resources
Cloud platform	<ul> <li>Overview</li> <li>Why cloud?</li> <li>GCP Vs. AWS Vs. Azure</li> <li>Cloud deployment</li> </ul>
AWS (Amazon Web Services) basics	<ul> <li>AWS account</li> <li>Regions</li> <li>EC2 types and pricing</li> <li>AMI's</li> <li>EIP, allocating, associating, releasing</li> <li>Launch instances in AWS</li> <li>Identity Access Management (IAM)</li> <li>Roles</li> <li>Policies</li> <li>Users</li> <li>Groups</li> </ul>



	OUR KNOWLEDGE, YOUR FUTURE
AWS hands-on	<ul> <li>AWS CLI</li> <li>Cloud app deployment</li> <li>Connecting to cloud remote machines</li> <li>Working with access key and secret access keys</li> <li>Profiles</li> <li>Budgets</li> <li>Cost explorer</li> </ul>
Terraform	<ul> <li>Infrastructure as code</li> <li>Environment setup</li> <li>HCL</li> <li>Workflows</li> <li>Commands</li> <li>Providers</li> <li>Resources</li> <li>Variables</li> <li>User data</li> <li>Output values</li> <li>Cloud infrastructure</li> </ul>
Confi	iguration Management
Configuration management	<ul> <li>Introduction</li> <li>Terminology</li> <li>Modules</li> <li>Configurations management tools</li> <li>Master-Agent configurations</li> <li>Agentless operation</li> <li>Roles</li> <li>Environments</li> </ul>



	OUR KNOWLEDGE, YOUR FUTURE
Ansible	<ul> <li>Introduction to Ansible</li> <li>Ansible advantages</li> <li>Ansible Installation</li> <li>Provisioning</li> <li>Built-in security</li> <li>Configuring Ansible Roles</li> <li>Write Playbooks</li> <li>Executing Ad-Hoc command</li> <li>Declarative commands</li> <li>Facts</li> <li>Modules</li> <li>Variables</li> <li>Ansible galaxy</li> <li>Conditionals</li> <li>Loops</li> <li>Vault</li> </ul>
	Final Project
Final project	<ul> <li>Orchestrating your containerized deployments for production-ready products</li> </ul>
Job Interviews	
Job interviews	<ul><li>Most frequent interview questions and solutions</li><li>Course summary</li></ul>