CLOUD ARCHITECTURE TRAINING PROGRAM

While students in large colleges study mass amounts of theory, we offer up to date, fresh and relevant Cloud Architecture 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 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 Cloud Architecture programs 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 Cloud Architecture 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.

COMPANY DETAILS

GRADUATES & ALUMNI
2000+

YEAR FOUNDED
2015

COMPANY TYPE
Educational Institution

COMPANY SIZE
40-50 employees

About the training program

The Cloud Architect role demands a unique and versatile set of skills, essential for effectively designing, managing, and optimizing cloud infrastructure. It requires a solid foundation in IT and DevOps, along with a comprehensive understanding of various cloud platforms, deployment models, and services. As technology evolves and businesses increasingly move towards cloud-based solutions, professionals in the field must be able to adapt and integrate their knowledge to create efficient, scalable, and secure cloud environments.

To excel as a Cloud Architect and stay at the forefront of this rapidly changing landscape, you need to think beyond traditional IT infrastructure management. You must possess a wide-ranging view of how cloud resources are orchestrated, be adept at leveraging automation tools, and navigate the nuances of multi-cloud and hybrid cloud architectures. In essence, a successful Cloud Architect should not only be proficient in managing cloud infrastructure but also have the foresight to design and implement cloud strategies that align with the organization's goals.
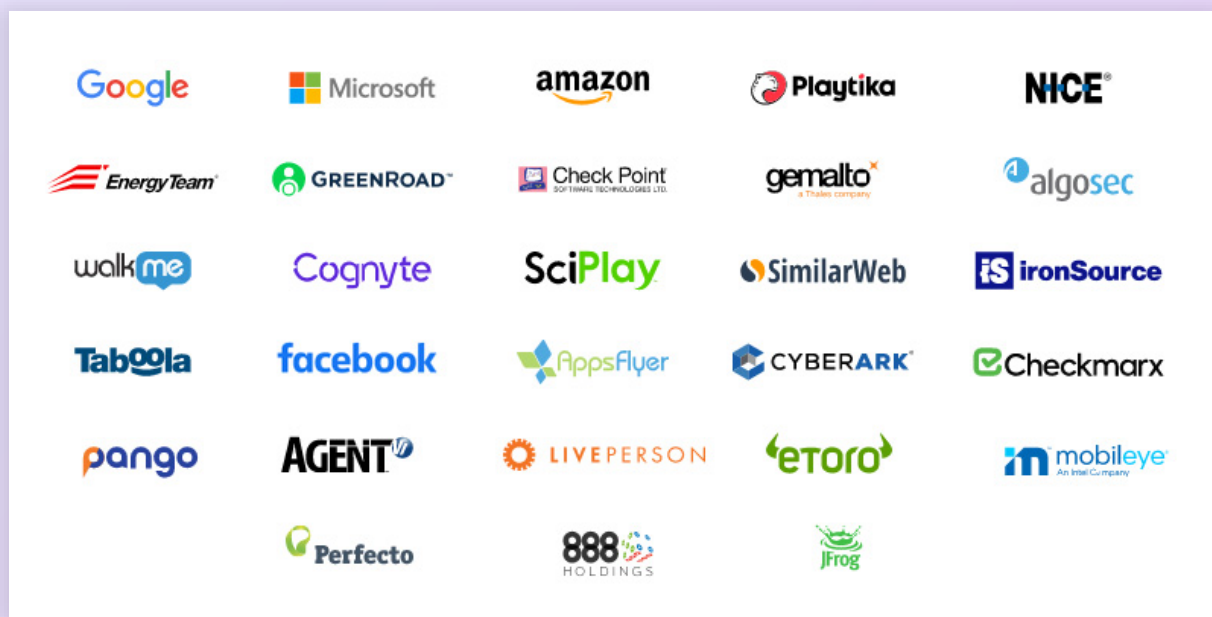
This is precisely what this program aims to achieve: it bridges the gap to becoming a Cloud Architect with a comprehensive understanding of how to design, implement, and manage cloud solutions that meet your organization's objectives. By the end of this course, you will have developed the strategic insight and practical expertise needed to excel in this increasingly vital role, enabling you to lead your organization's journey into the cloud with confidence and skill.

Who is this program for?

Our Cloud Architecture training program will benefit:
- DevOps engineers
- CTOs
- Tech Leads
- Architects
- Backend Developers
- Cloud Engineers
- Site Reliability Engineers
- Cloud Infrastructure Engineers
- Data Engineers
- FinOps professionals

OUR ALUMNI WORK WITH THE BEST

Google | Microsoft | amazon | Playtika | NICE

EnergyTeam | GREENROAD | Check Point | gemalto | algosec

walkme | Cognyte | SciPlay | SimilarWeb | ironSource

Taboola | facebook | AppsFlyer | CYBERARK | Checkmarx

pango | AGENT | LIVEPERSON | eToro | mobileye

Perfecto | 888 HOLDINGS | JFrog

Learn from industry experts

Industry-recognized Architects course will teach you current and in-demand 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 Cloud Architect.

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 Cloud Architecture.

THE INSTRUCTORS

Danny Gitelman

Senior SRE

Microsoft

in

Aviel Buskila

DevOps Lead

Identiq

in

Daniel Gotlieb

DevOps Team Lead

Trigo

in

Doron Nuni

DevOps Manager

Cognyte

in

Modi Tamam

Technology Strategy Leader

Citi

in

Multi-Cloud Learning

Please note that this course follows a Multi-Cloud paradigm, meaning we aim to teach the considerations for selecting the cloud services best suited for your specific needs, whether they are provided by or for AWS, Azure, or GCP.

This means in instances where the course content (below) references any one of the Cloud Providers, we will discuss considerations for all three.

Program Project

The goal of the project is to build a security aware, self-healing mechanism.

In many cloud environments, developers might have permissions to make disruptive changes (such as open the firewall to any source from the internet, turn off automatic snapshots etc).

In this project you will architect, design and implement a self-repair mechanism that will detect such scenarios and execute mitigation flow.

Part 1 - Identification:
Set up the basic alerting mechanism that will be in charge of detecting the scenarios we want. At this stage we will only identify and understand something bad has happened.

Part 2 - Mitigation:
Define and code the mitigation phase, which will be triggered by the previous part and execute code to fix the problematic issue. This will happen on a serverless, ad-hoc infrastructure.

Part 3 - Enhancement:
Enhance the mechanism and integrate it as part of the development lifecycle of the organization, with your choice of area of focus.
- Infrastructure creation (IaC) - the self healing process will be executing during the infra creation phase, and will remediate any issues before they even start
- Software development - our project will gain capabilities to scan software vulnerabilities during the development process.

Topic	Description
Introduction to Cloud Architecture	• Cloud service models: IaaS, PaaS, SaaS • Deployment models: public, private, hybrid, multi-cloud • Scalability, elasticity, availability, fault tolerance • Core services: compute, storage, networking, databases, analytics
Networking Architectures	• VPC Concept • Designing single VPC environment • Advanced VPC patterns: single tenant, multiple accounts, cross-regions and cross-clouds implementation • Choosing the right connectivity type • Operational aspects" BC/DR, security, cost & allocation • Load balancing patterns

Data patterns - SQL and NoSQL	• SQL- MySQL, PostgreSQL
	• No SQL
	   o ElasticSearch – Document Database
	   o Redis – In-Memory Database
	• Object storage - S3
	   o Usage, examples, management

Serverless Architecture	• Serverless and Lambda architecture
	• Serverless vs VM / EKS persistent workloads
	• Managing CI/CD on serverless applications:
	   o Lambda layers
	   o Managing versions
	   o Deploy fast, fail fast.
	• Orchestrating serverless workloads for big data

Microservices Architecture in the Cloud	Microservices:
	• Scenarios and considerations – Pros and Cons
	• Microservices deployment patterns
	   ○ Canary deployment
	   ○ Rollout deployment
	   ○ Blue green deployment
	• Inter-service and intra-service communications
	• Optimization and performance patterns
	   ○ Caching patterns
	   ○ Serverless at edge
	   ○ API gateway routing, SSL offloading
	• Architecting public vs private REST API
	
	Event-Driven Architecture:
	• Pub/sub
	• Autoscaling
	• Decoupled Services

Container Orchestration with Kubernetes	• Docker intro
	• Cluster management
	• Deployments
	• Networking
	• Working with load balancer types
	• Stateful sets
	• Authentication and Authorization - Role-based access control
	• Integration with 3rd party tools into Cloud managed kubernetes clusters
	   ○ Helm deployments
	   ○ Intro to GitOps with ArgoCD

Infrastructure Management with Kubernetes	• Storage Classes and Persistency • Ingress Controller • Secret Management • Autoscaling • Service Mesh • Common 3rd Party Kubernetes Operators

Infrastructure as Code	• Cloud-specific vs Cloud-agnostic
	• CICD strategies for IaC deployment
	   ○ Preventing resource deletion
	   ○ Data persistency
	• Declarative CDK data deployment

Case Studies	- Architecting multi-tier REST API service - Architecting a serverless application for high volume data ingestion - Multi env deployment and CI/CD using only GitHub actions - Rotating SSL keys with KMS and secrets manager - Managing sensitive application env vars using secrets manager and IAM - Centralized logs and monitoring collection in a multi-env, multi-region, multi-account architecture

Security in the Cloud	- Firewall - Security groups - Inbound rules, Outbound rules, State - Authentication and Authorization with AWS IAM - STS - Users - Roles - Policies - Best practices working with credentials - Pem keys - Secrets manager - Encryption at-rest and in-transit - KMS - Kubernetes security - Image scanning - Container Runtime security
Observability	- Logs management architecture and implementation for different services in the organization - Metrics collection, aggregation, presentation, and alerting with Prometheus and Grafana - Application performance management using X-ray (tracing agent) - Auditing in the cloud (cloudtrail) and auditing for Kubernetes API
Project	Building a self-healing secure environment using terraform setup, GitHub actions deployment, with log management, metrics collections, analysis audit, serverless triggers and AWS API.

Machine Learning & AI in Cloud Architecture	• Data Science & ML for Architects • Architectural considerations in AI, ML • NumPy, Matplotlib for architectural decisions • Key ML Concepts for Architects (Regression, Classification, Bias, Variance, train-test and cross-validation, over/underfitting, confusion matrix) • Supervised vs unsupervised algorithms for scalability • System design leveraging NLP • MLOps principles in architectural frameworks • Real-world AI/ML architecture use case
Architecture and Business Strategy	• The Enterprise Operating Model • Business Needs • IT Capabilities • Business Operations and IT Systems • Infrastructure enterprise architecture • Architecture Governance