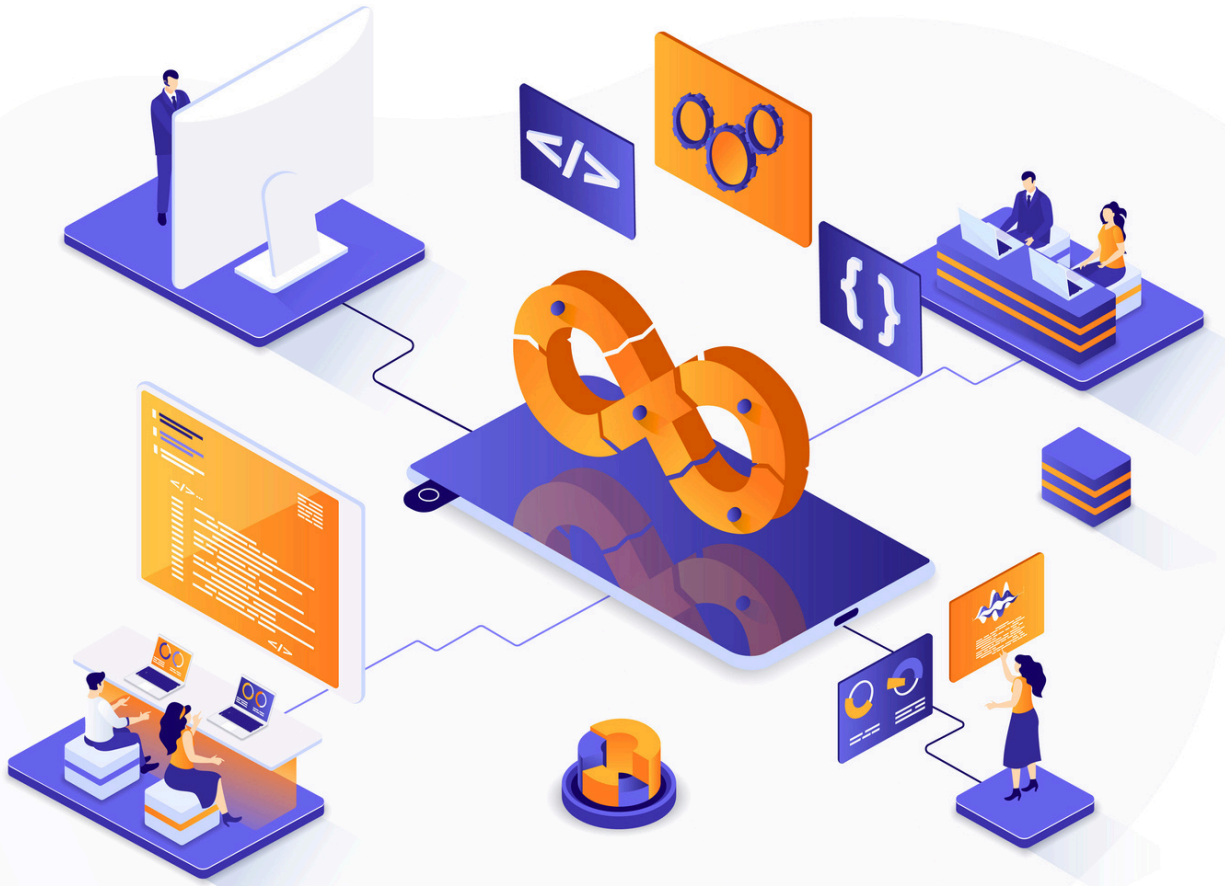
ARBOR ACADEMY

AWS & DevOps



Pay After Placement

www.arboracademy.in

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What is Arbor ?

Arbor Academy is an online IT course provider based in Pune, offering a wide range of courses designed to equip individuals with the skills needed to thrive in today's technology-driven world. We begin by assessing your background, skills, and career aspirations in the IT field. Based on this assessment, we create a personalized action plan to help you achieve your goals and prepare for the job market.

Our academy also provides excellent placement opportunities, boasting a high placement rate compared to other IT training institutes. The best part is that we pay you upon course completion, allowing you to fully focus on your studies and career preparation during your time at Arbor Academy.

Our Mission

At Arbor Academy, our mission is to empower individuals with the essential IT skills and knowledge required to excel in the technology-driven world. We are dedicated to providing personalized education, hands-on experience, and exceptional placement opportunities to ensure our students achieve their career aspirations and contribute meaningfully to the tech industry.

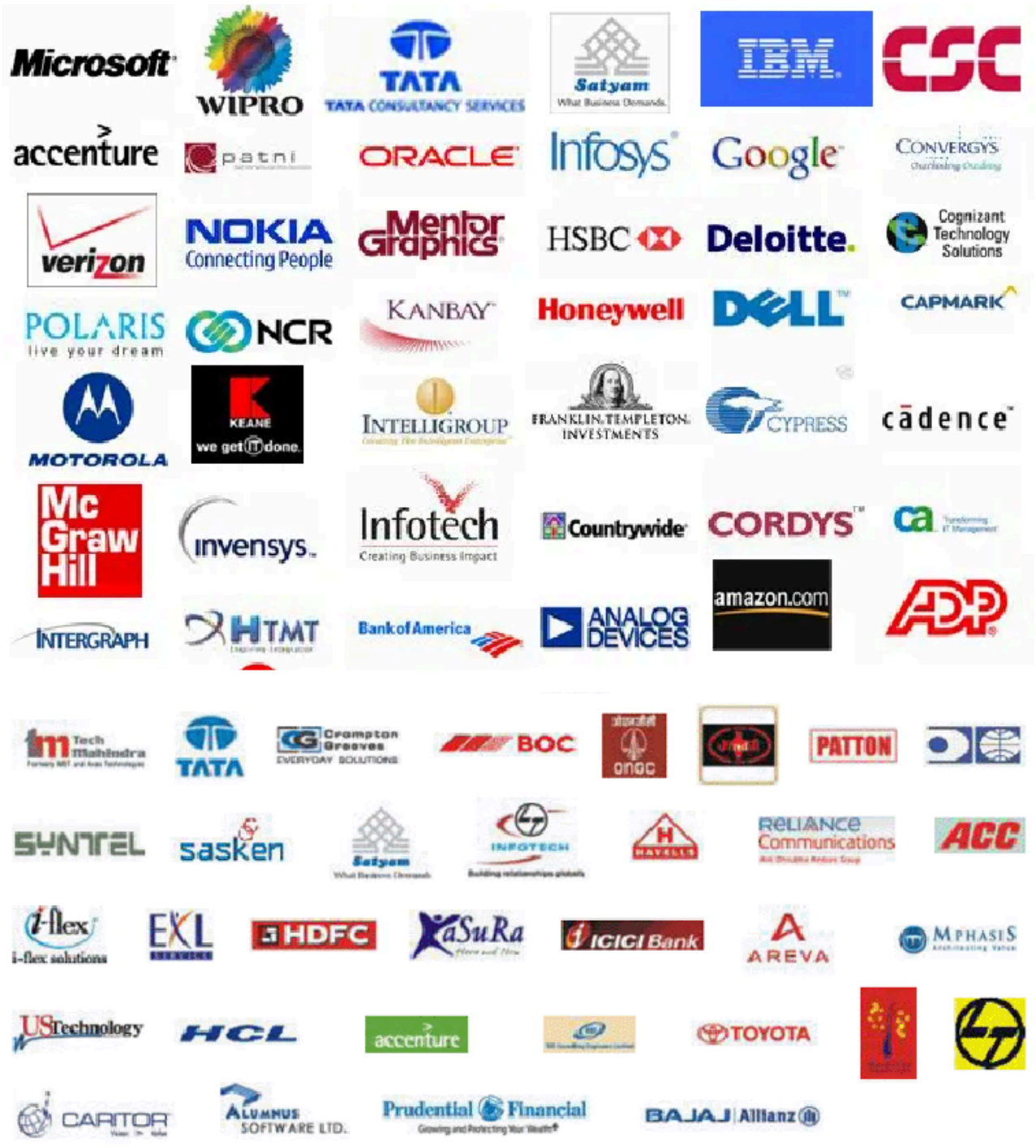
Our Vision

Our vision is to be a leading online IT education provider recognized for our commitment to quality, innovation, and student success. We strive to create a dynamic learning environment that fosters growth, encourages continuous learning, and bridges the gap between education and employment in the ever-evolving field of technology.

Key Features

- **Flexible Learning**
  Learn Anytime, Anywhere, and on Any Device.
- **Real-World Experience**
  Work on Live Projects.
- **Guided Education**
  Mock Interviews and Training.
  QA Discussion Forums.
  Bi-weekly Mock Interviews.
- **Unmatched Opportunities**
  Unlimited Placement Drives.
  Soft Skills Sessions: Mastering HR Rounds.
- **Comprehensive Resources**
  Unlimited Video Access with Source Code & Assignments.
- **Recorded Sessions**
  Provide flexibility and Accessibility to learner.
- **Personalized Attention**
  Small Training Batches.
- **Ongoing Support**
  Job Support Assistance.

Placement Companies



What We Provide

Our AWS/DevOps training program provides comprehensive coverage of AWS services like EC2, S3, Lambda, and CloudFormation, alongside essential DevOps practices such as CI/CD, IaC, and container orchestration. Participants gain practical experience through real-world projects and assignments.

Led by certified experts and industry leaders, the program includes interactive lectures, workshops, and customized learning paths tailored to specific career goals. We offer extensive job placement support, including career counseling, mock interviews, resume building, and networking opportunities. With flexible schedules, recorded sessions, live webinars, and ongoing mentorship, learners can advance at their own pace while staying updated with the latest industry trends.

Designations

- AWS Solutions Architect
- DevOps Engineer
- Cloud Engineer
- Site Reliability Engineer (SRE)
- Cloud DevOps Engineer
- Infrastructure Engineer
- AWS Cloud Consultant
- CI/CD Specialist
- Cloud Security Specialist
- Cloud Architect

Syllabus

1. WHAT IS AWS?

2. IAM (IDENTITY AND ACCESS MANAGEMENT)

- Users
- Groups
- Roles
- Policies

3. S3(SIMPLE STORAGE SERVICE)

- Access Bucket
- Policies
- Replication
- CORS
- Versioning

4. LINUX

- Linux and shell scripting

5.EC2:

- EC2 complete scenarios
- Properties
- Volumes Complete scenarios
- Security Groups
- Load Balancers
- Auto Scaling
- Bastion host
- EFS

6. KMS

- Internal
- External

7. VPC (VIRTUAL PRIVATE CLOUDS)

- VPC
- Internet Gateways
- NAT Gateways
- VPC Endpoints
- Customer Gateway
- Subnets
- Route Tables
- NACL
- VPC Peering
- VPN tunneling Transit gateway
- WAFs

8. LAMBDA

- All cases

9. CLOUD FORMATION

- Mappings
- Parameters
- Outputs
- Conditions
- Logical Separations
- Cfn-init
- Drift
- NestedStacks
- Advance Concepts

10. RDS DATABASES OF AWS

- Relation databases
- Columnar databases
- Key Value Stores

11. CLOUD WATCH

- Cloud Watch Logs
- Events
- Alarms

12. EFS (ELASTIC FILE SYSTEM)

- What is EFS?
- Implementation

13. WHAT IS DEVOPS?

- What is DevOps and how it is being used on AWS?
- Advantages
- Disadvantages

14. IAC (INFRASTRUCTURE AS CODE)

- Infrastructure as code with Python
- Infrastructure as code with Terrafom

15. ANSIBLE

- Ansible Introduction
- Introduction to Ansible inventory
- Ansible Modules and Adhoc commands
- Write an Ansible Playbook and Configure Machine
- Role, Loop and Condition in Ansible Playbook

16. ROUTE 53

- Monitoring
- Routing
- DNS Management

17. API GATEWAY

- Deployment of application

18. DATA MIGRATION SERVICE

- All Cases

19. DEVOPS IN AWS

- Code Deploy
- Code Commit
- Code Pipeline
- Code Build
- ECS
- ECR

20. ELASTIC BEANSTALK

- Deployment of a pplication

21. ECS

- AWS ECS all cases

22. PROJECTS

Module 1 : DevOps Introduction

- What is DevOps?
- DevOps Roles
- DevOps Necessities
- DevOps Problems & Solution
- DevOps: Continuous Delivery and Benefits
- DevOps: Lean thinking, a change of culture
- Linux Fundamentals
- Commands in Linux
- Networking Concepts
- Linux in File System
- Linux file & Directory management
- Linux Permission

Module 2 : Cloud Computing and Amazon Web Services Introduction

- Introduction to Cloud Computing, Service Models, Deployment Models
- AWS Overview
- Create an AWS account and browse the components
- Recognize AWS Global Infrastructure ➢ AWS Regions ➢ AWS Availability Zones
- Describe the security measures AWS provides
- Hosting a web App on Amazon Web Service

- **AWS VPC** :
  - ➢ VPC Overview
  - ➢ VPC creation and Lab
  - ➢ Subnet management
- **AWS Compute Services :**
  - ➢ EC2 Overview
  - ➢ EC2 Type
  - ➢ Security Groups
  - ➢ Elastic Load Balancer Overview, ELB type and ELB Lab
  - ➢ Auto Scaling and Lab
- **AWS IAM Service :**
  - ➢ IAM User
  - ➢ IAM Policy
  - ➢ IAM Role
  - ➢ IAM Groups
- **AWS S3 storage service :**
  - ➢ S3 Storage Classes,
  - ➢ S3 Policy,
  - ➢ S3 Lifecycle Management.

Module 3 – GIT

- Introduction to Git and Git Installation
- Introduction to Version Control (GIT)
- GIT commands and GitHub
- Configuration Management and Automation

Module 4 – Continuous Integration with Jenkins

- Jenkins: Introduction and installation
- Jenkins Configuration
- Installing Artifactory
- Setting Up Version Control system
- Jenkins Maven Integration
- Jenkins Best Practices
- Jenkins Master Slave Architecture
- Integrate SonarQube for static code analysis

Module 5 – Ansible for configuration management

- Introduction of Ansible tool and installation
- Introduction to YAML Syntax
- How to Installation Ansible?
- Ansible: First Playbook
- Ansible: First Playbook demo
- Basic: Running Commands
- Ansible: Roles, Files and Handlers
- Utilizing Ansible Vault for Encryption/Decryption
- Ansible: Best Practices

Module 6 – Docker Session

- Introduction to Docker and Docker installation
  - ➢ What is a Docker
  - ➢ Why docker
  - ➢ Use case of Docker
  - ➢ Dockers vs. Virtualization
  - ➢ Installing Docker on Linux.
  - ➢ Docker commands.

- **Docker Architecture**
  - ➢ Docker Architecture.
  - ➢ Understanding the Docker components
  - ➢ Docker best
- **Docker Hub and Docker Image Repository**
  - ➢ Downloading Docker images.
  - ➢ Uploading the images in Docker Registry and own registry.
  - ➢ Understanding the containers
  - ➢ Running commands in container.
  - ➢ Running multiple containers.
- **Docker Custom images**
  - ➢ Creating a custom image though dockerfle.
  - ➢ Running a container from the custom image.
  - ➢ Publishing the custom image.
- **Docker Networking**
  - ➢ Understanding of docker networks
  - ➢ Docker network creation and management.
  - ➢ Accessing containers
  - ➢ Linking containers
- **MicroService Deployment**
  - ➢ Create Dockerize application
  - ➢ Understanding microservice architecture.
  - ➢ Deploying microservice

Module 7 – Kubernetes

- **Kubernetes Introduction**
  - ➢ What is Kubernetes
  - ➢ Why Kubernetes
  - ➢ Kubernetes advantages over other container management tools
- **Kubernetes Installation and Cluster Setup**
  - ➢ Installation and cluster creation
  - ➢ Understanding various installation methods
- **Kubernetes Components**
  - ➢ Kubernetes features
  - ➢ Kubernetes pod creation
  - ➢ Kube API Server
  - ➢ Kube Controller Machine
  - ➢ Kube etcd
  - ➢ Kube Scheduler
  - ➢ Replica sets/Replication Controller
- **Kubernetes Deployment**
  - ➢ Deploying dockerize application to the Kubernetes cluster
  - ➢ Kubernetes scaling Management
  - ➢ Working with Labels
- **Kubernetes Architecture**
  - ➢ Understanding of Kubernetes Architecture
  - ➢ Exploring Kubernetes Master and Node component

Module 8 – Monitoring Prometheus & Grafana

- Setup Monitoring Stack
- Visualize Real-time application metrics

Module 9 – Terraform

- What is Terraform
- Build infrastructure using Terraform code
- Change, destroy, manage infrastructure
- Integrating Terraform on AWS
- Updates to existing

Module 10 – Mini Project

- **Project 1** : Automating Webserver and Website hosting with Ansible
- **Project 2** : Microservices Automation and Deployment Using AWSand Docker
- **Project 3** : End to End Continuous Delivery Automation with Git, Jenkins, Ansible including Continuous Integrations, Continuous Testing and Continuous Deployment Pipeline
- **Project 4 :** Packaging Microservices on Docker Containers
- **Project 5** : Complete CI/CD pipeline setup using Git, Jenkins, Tomcat, AWS
- **Project 6** : CI/CD by Dockerizing a Jenkins Pipeline.

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Thank You