



MULTI-CLOUD DEVOPS



Why KSR?



At KSR, we are your one-stop solution for mastering trending technologies and accelerating your career. Here's why you should choose us:

- 1 Comprehensive Learning
- 2 Guaranteed Placement
- 3 Practical Approach
- 4 Career Guidance & Development
- 5 Global Recognition
- 6 1 on 1 Guidance



15,000 +
Learners



5M +
Views Count



750+ Google Reviews with
4.9 Rating



1,00,000 +
Subscribers

About the Course

KSR's course is designed for individuals who are completely new to multi-cloud environments. No prior cloud experience is required. We will guide you through an introduction to Azure and AWS & other tools used, assist you in setting up your own accounts, and provide you with the essential skills to effectively use multi-cloud core services.

What will you get After Completion of this Course ?



Course Completion
Certificate



Build an Impressive
LinkedIn & Naukri Profile



Client Handling
Techniques



Resume forwarding to
Recruitment Team & Support
till you get Interview Calls



Attend 1 week free
sessions



Building an Impressive ATS Interview Preparation Tips
& Mock Interviews



Interview Preparation Tips
& Soft Skills & Corporate
Office Etiquette's



LMS Platform Access for
Lifetime (All Recorded
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100% Job Assistance

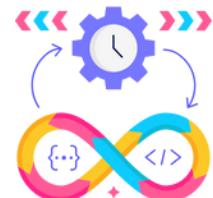
Who should Choose this Course ?



New Job Aspirants



Data & Cloud Enthusiasts



Anyone from IT & Non-IT

Skills Covered in this Course

- Cloud Fundamentals
- AWS Core Services
- Azure Core Services
- Identity and Access Management (IAM)
- Infrastructure as Code (IaC)
- CI/CD Pipelines
- Containerization and Orchestration
- Monitoring and Logging
- Multicloud Management and Integration
- Security and Compliance

Tools covered in this Course



Azure



Kubernetes



Git



Docker



Jenkins



Azure Repos



Agile



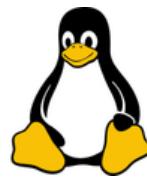
AWS



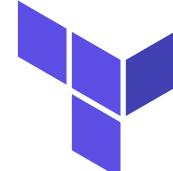
Github



Ansible



Linux



Terraform



Nagios



Why Multi - Cloud Devops?

Multi-cloud DevOps combines the benefits of multiple cloud platforms with DevOps practices, offering flexibility, scalability, and resilience. It helps organizations avoid vendor lock-in, optimize costs, and ensure high availability. Including multi-cloud DevOps in the curriculum prepares students to manage and deploy applications across various cloud environments, equipping them with the skills to tackle challenges in integration, security, and operational efficiency.



MULTI-CLOUD DEVOPS CAREER ROADMAP



Click the link



Course Curriculum

1. Azure A

2. AWS 

3. Devops 

Azure Cloud & Automation

AWS Cloud & Automation

Infrastructure as a Code

Pipeline as a Code

CI / CD on Multi-clouds

Agile Process

4. Hands on Project



Course Curriculum: Azure

Microsoft Azure is a cloud computing platform offering a wide range of services like virtual machines, databases, AI, and analytics. It provides flexible solutions for building, deploying, and managing applications globally. Azure supports hybrid cloud setups, integrating on-premise and cloud resources seamlessly. It ensures high security and compliance with industry standards. Key services include Azure Virtual Machines, Azure SQL Database, and Azure DevOps.

Module 1: Azure Introduction

- Cloud Keywords
- Create Azure Account
- Billing Alert
- Azure tour
- Azure vocabulary
- Subscription management
- Cost Analysis & Management

Module 2: Azure Active Directory

- Azure AD Introduction
- Creating user without permissions
- Granting access at the resource level
- Granting access at the resource group level
- Granting access at the subscription level
- Creating custom roles
- Granting custom roles to the user



Module 3: Azure Virtual Machine

- Creating a virtual machine
- Login to VM
- Boot strap – custom data
- Custom script extension
- working with extra disk
- Disk snapshot
- VM resize
- Adding network interface
- Custom image creation
- Boot diagnostics & Console connect

Module 4: Virtual Machine Availability

- Introduction for infra availability
- Availability sets
- Availability zones
- Azure scale sets
- Proximity placement group
- Azure redeploy

Module 5: Virtual Network

- Introduction to server networking
- Create VNET with subnets
- Create a server from custom subnet
- Creating bastion/jump host
- Working with public ip's
- Working with network interfaces



- Network security group at interface level
- Network security group at subnet level
- Virtual network peering

Module 6: DNS

- Private DNS
- Public DNS

Module 7: App Services

- Service Plan creation
- Using visual studio
- Create a sample application
- Webapp creation
- Explore webapp
- Deployment slots
- Webapp auto scaling
- Virtual network integration
- Webapp custom domains

Module 8: Load Balancer

- Introduction about load balancer
- Load balancer with VM's (Basic & Standard)
- Basic LB with availability sets
- Basic LB with Inbound NAT rules
- Basic LB with VMSS
- Standard LB with AVS
- Standard LB with VMSS
- Application gateway – Context based routing

Module 9: Azure Storage

- Introduction about storage
- Blob service
- Accessing data using shared access signature
- Accessing data using Storage explorer
- Accessing data using AD users
- Data redundancy - LRS,ZRS,GRS,RAGRS,GZRS
- Storage access tiers
- Storage lifecycle polies
- Object replication





Course Curriculum: AWS

Amazon Web Services (AWS) is a comprehensive cloud platform offering on-demand computing, storage, and networking services. It allows businesses to scale resources up or down based on need, ensuring cost efficiency. AWS supports a wide range of tools for databases, machine learning, analytics, and IoT.

Module 1: Account Basics

- AWS Free Tier
- Create an AWS Account
- How to Navigate the AWS Console
- AWS Documentation

Module 2: Identity & Access Management

- What is IAM?
- IAM Initial Setup and Configuration
- IAM Users and Policies
- IAM Groups and Policies

Module 3: Virtual Private Cloud

- AWS Global Infrastructure
- VPC Basics
- Internet Gateways (IGW)
- Route Tables (RTs)
- Network Access Control List (NACLs)
- Subnets
- Availability Zones (VPC Specific)



Module 4: Simple Storage Services

- S3 Basics
- Buckets & Objects
- Storage Classes
- Object Lifecycles
- Permissions
- Object Versioning

Module 5: Elastic Compute Cloud

- EC2 Basics
- Amazon Machine Images (AMIs)
- Instance Types
- Elastic Block Store (EBS)
- Security Groups
- IP Addressing
- Launching and Using an EC2 Instance

Module 6: Databases

- RDS Basics
- RDS Resiliency: Multi-AZ
- Provisioning an RDS MySQL Database

Module 7: Simple Notification Service (SNS)

- SNS Basics
- Using SNS

Module 8: Cloud Watch

- Cloud Watch Basics
- Cloud Watch Alarms



Module 9: Load Balancer

- EC2 Basics
- Amazon Machine Images (AMIs)
- Instance Types
- Elastic Block Store (EBS)
- Security Groups
- IP Addressing
- Launching and Using an EC2 Instance

Module 10: Auto Scaling

- Auto Scaling Basics
- Using Auto Scaling

Module 11: Route 53

- Route 53 Basics
- Using Route 53
- Domain Registration
- Private vs. Public Hosted Zones

Module 12: Lambda

- Lambda Basics
- Lambda Test



Course Curriculum: DevOps

Introduction

- What is DevOps?
- History of DevOps
- Different Teams Involved
- DevOps definitions
- DevOps and Software Development Life Cycle
 - Waterfall Model
 - Agile Model
- DevOps main objectives
- Prerequisites for DevOps
- Continuous Testing and Integration
- Continuous Release and Deployment
- Continuous Application Monitoring
- Configuration Management
- What is Cloud?
- History and evolution of cloud
- Cloud Computing Concepts
- Public, Private, Hybrid Clouds
- IAAS, SAAS, PAAS Cloud Models
- Public Clouds (Amazon Web Services, Azure, Oracle Cloud, IBM Cloud)
- DevOps with Cloud



Module 1: Operating System

LINUX ADMINISTRATION (Overview)

This course teaches the advanced concepts of processes, programs and the components of the Linux operating system. You learn the advanced knowledge of computer hardware, gain an understanding of open source applications in the workplace, and learn to navigate systems on a Linux desktop rudimentary commands to navigate the Linux command line.

- **INTRODUCTION**

- A Linux Introduction
- Open Source Philosophy
- Distributions
- Basic Kernel & Shell Architecture

- **ACCESSING SERVER**

- Usage of Putty
- Password less login
- Booting Process

- **COMMAND LINE BASICS**

- **USING DIRECTORIES AND LISTING FILES**

- **CREATING MOVING & DELETING FILES**

- **TEXT EDITORS**

- Vi, vm ,nano



- **CREATING USERS & GROUPS & OWNERSHIP**

- User IDs
- User Commands
- Group Commands
- File/ Directory Permissions & Owners

- **PACKAGE & REPOSITORY MANAGEMENT**

- Package Management tools & Repositories
- Hands-On - Package Management (YUM, rpm) - For Use with Linux Essentials Lab Servers

- **NETWORK MANAGEMENT**

- Network Configuration
- ethtool, inconfig, netstat
- nslookup, ping, ncp

- **FILE SYSTEM MANAGEMENT**

- Standard Partition
- Large Volume Management

- **SERVICE MANAGEMENT**

- Network File System (NFS)
- Apache (httpd)



Module 2: Linux System Level Automation

Shell scripts can take input from a user or file and output them to the screen. Whenever you find yourself doing the same task over and over again you should use shell scripting, i.e., repetitive task automation. Creating your own power tools/utilities.

- **INTRODUCTION**

- Course Introduction
- Configuration setup for the shell

- **SHELL SCRIPTING**

- Special Files
- Variables
- Basics
- Expressions
- Decision Making
- Command Controlled Loops
- Loop Direction
- Other Controlled Loops
- Special Parameters & Loops
- Debugging Scripts
- Functions

Module 3: Infrastructure as a Code (IAC)

- **INTRODUCTION TO ORCHESTRATION TOOLS**

- Configuration Management vs Orchestration
- Mutable Infrastructure vs Immutable Infrastructure
- Procedural vs Declarative
- Client/Server Architecture vs Client-Only Architecture
- Infrastructure As A Code with AWS Using Terraform
- Installation
- Creating connection between CLI & Azure API

- **WORKING WITH TERRAFORM**

- Hashi Corp Configuration Language
- Terraform Console and Output
- Input Variables
- Breaking Out Our Variables and Outputs
- Maps and Lookups
- Terraform Workspaces
- Null Resources and Local-exec

- **TERRAFORM MODULES**

- Introduction to Modules
- Realtime examples using different azure services

- **REAL TIME PROJECTS ON TERRAFORM USING AZURE & AWS**



Module 4: Configuration Management

ANSIBLE (Overview)

Ansible continues to gain traction as a powerful, enterprise level configuration and deployment management tool. With it's standardized Playbook formatting and reliance on Python standards, it is easy to use, quick to learn and puts the power of automation at everyone's fingertips. In this course, we will cover Ansible configuration, modules, command line usage and Playbook building. By the time you are done, you will be able to use Ansible to automate and manage your DevOps infrastructure.

- **INTRODUCTION**
- **YAML Basics**
- **INVENTORY DESCRIBING YOUR SYSTEMS**
- **ANSIBLE MODULES**
- **VARIABLES AND FACTS**
- **CONDITIONS & LOOPS**
- **SPECIAL CASES**
 - ignore_errors
 - local_action
 - delegate_to
 - serial
 - failed_when
 - ansible vault
- **DEBUGGING ANSIBLE PLAY BOOKS**
- **SCALE UP YOUR PLAYBOOKS USING ROLES**
- **REALTIME PROJECTS USING ANSIBLE**



Module 5: Repository Management

GIT & GITHUB (Overview)

Over the length of this course, we will start at the very beginning of revision and source control the way that it is intended to be done using Git client and server. Once we have a firm handle on how to manage our files at the command prompt and in our own repositories, we will take a look at several of the more commercial or public Git hosting sites - Github and Bitbucket. Finally, we will install the Github clone called Gitlab and take a deep dive in how source control can be used in an online environment that supports team collaboration and build automation using Jenkins.

- **INTRODUCTION**
- **INSTALLATION**
- **GIT BASICS**
 - Empty Repositories
 - Git Basics
 - Git Ignore
 - Cloning
 - Cloning: Local Repositories
 - Cloning: Remote Repositories
- **TAGGING, BRANCHING & MERGING**
- **LOGGING & REPOSITORY AUDITING**
- **WORKING WITH GITHUB**
 - Introduction with Github
 - Secure Communication
 - Working with Github

Module 6: Build & Release Management (CI & CD)

JENKINS (Overview)

Students will learn how to use Jenkins 2.x.x at a proficient level. This includes the creation and configuration of jobs and builds, testing, common plugin usage and building pipelines. They will gain knowledge of common CI/CD concepts, and “CD as code” best practices. The material in this course will also help students prepare to pass the Certified Jenkins Engineer 2017 certification.

- **INTRODUCTION**
- **CI & CD PIPELINES**
- **INSTALLING & CONFIGURING JENKINS**
 - Prerequisites
 - Jenkins Install
 - Adding a Jenkins Slave
 - Managing Credentials
 - Configuration Tour
 - Plugin Manager
- **MANAGING JENKINS**
 - The Dashboard
 - User Management & Security
 - Jenkins Backup
 - Setting Git & Github
- **PROJECTS**



Module 7: Containerization

DOCKERS (Overview)

This course will explore Docker from the very basics of installation and function to an in depth review of the use cases and advanced features. We will talk about how Docker is architected in order to provide a better understanding of how to manage Linux Containers using the Docker Client.

- **LEARNING THE BASICS OF DOCKER**
- **THE DOCKERFILE, BUILDS & NETWORK CONFIGURATION**
- **STORAGE MANAGEMENT**
- **MONITORING DOCKER CONTAINERS & HOUSEKEEPING**
 - Monitoring
 - Docker stats
 - Docker top
 - Housekeeping dockers containers
- **DOCKER COMMANDS AND STRUCTURES**
- **WORKING WITH DOCKER REGISTRY**
- **REAL TIME INTEGRATION USE CASES**
 - Building a Web Farm for Development and Testing (Prerequisites)
 - Building a Web Farm for Development and Testing (Part One)
 - Building a Web Farm for Development and Testing (Part Two)
 - Building a Web Farm for Development and Testing (Part Three)
 - Building a Web Farm for Development and Testing (Part Four)
 - Migrating on prem Java Based applications to Microservices



Module 8: Microservices with Kubernetes (K8S) AKS, EKS

- **INTRODUCTION TO KUBERNETES**

- What is Kubernetes
- Design Overview
- Components
- Building Block of Kubernetes
- Summary

- **UNDERSTANDING KUBERNETES ARCHITECTURE IN AWS, AZURE**

- **INTRODUCTION TO YAML**

- What is YAML
- Structure

- **INSTALLATION, CONFIGURATION & VALIDATION**

- **CLUSTER COMMUNICATIONS**

- **CONFIGURING THE KUBERNETES SCHEDULER**

- Labeling the nodes
- Node affinity
- Node Selector
- Resource Management
- Daemon Sets and Manually Scheduled Pods
- Displaying Scheduler Events

- **STORAGE MANAGEMENT**

- **APPLICATION LIFE CYCLE MANAGEMENT**
- **CONFIGURING AN APPLICATION FOR HIGH AVAILABILITY AND SCALE**



- **LOGGING & MONITORING**

- Monitoring the Cluster Components
- Monitoring the Applications Running within a Cluster
- Liveness Probe
- Readiness Probe
- Managing Application Logs
- Getting pod logs
- Auto scaling

- **MANAGING THE KUBERNETES CLUSTER**

- How to drain/undrain the nodes
- How to remove the nodes from the cluster
- Bring back the server to ready state
- Adding a new node to the cluster

- **CREATING & BUILDING INGRESS CONTROLLER**

- Create Ingress controller
- Configure namespaces
- Build java application images
- Deploy them to AKS,EKS clusters

- **FINAL PROJECT**

- Live application deployment to the Kubernetes clusters (across AWS, Azure)

Module 9: Microservices with Kubernetes (K8S) AKS, EKS

GROOVY SCRIPTING (Overview)

Jenkins Pipeline (or simply "Pipeline" with a capital "P") is a suite of plugins which supports implementing and integrating continuous delivery pipelines into Jenkins. A continuous delivery pipeline is an automated expression of your process for getting software from version control right through to your users and customers. Every change to your software (committed in source control) goes through a complex process on its way to being released. This process involves building the software in a reliable and repeatable manner, as well as the progression of the built software (called a "build") through multiple stages of testing and deployment.

- **INTRODUCTION & GETTING STARTED**

- Course Introduction
- Configuring Our Jenkins server
- Installing required pluigns to start the groovy scripting

- **GROOVY SCRIPTING**

- Types of Scripting
- Explaining Pipeline in Detail
- Step
- Node & Agent
- Stage
- Steps
- Script



- Using Operators
- Declaring Variables
- Using Decision Making
 - simple if statement
 - if-else statement
 - nested-if statement
 - switch statement
 - nested switch statement
- Using Loops
 - while loop
 - for loop
 - for-in loop
 - break statement
 - Continue Statement
- Using Methods
 - simple method
 - method with default parameters/arguments
 - method with return values
- Using I/O operations in Files
 - Reading files
 - Reading the Contents of a File as an Entire String
 - write a new file
 - more examples
 - append the text to a file
 - Other fn()'s related to the file operations



Module 10: Working with Agile in Azure

- Introduction to JIRA
- Working with azure boards
- Creating a userstory
- Azure devops process
- Using sprints
- Integrate boards with slack
- Azure devops AD integration
- Azure permissions
- Working with queries
- Working with charts

Module 11: Repository Management with Azure Repos

AZURE REPOS (Overview)

Over the length of this course, we will start at the very beginning of revision and source control the way that it is intended to be done using Git client and server. Once we have a firm handle on how to manage our files at the command prompt and in our own repositories, we will take a look at several of the more commercial or public Git hosting sites - Github and Bitbucket. Finally, we will install the Github clone called Gitlab and take a deep dive in how source control can be used in an online environment that supports team collaboration and build automation using Jenkins.



- **INTRODUCTION**

- Introduction to Git and Github

- **AZURE REPOS**

- Git branching strategy
 - Working with azure repos
 - Pushing branches to azure repo
 - Working with pull request
 - Working with visual studio & github
 - Create branch & push to github
 - Visual studio with azure repo
 - Integrating azure board with github

Module 12: Azure Continuous Integration - Part 1

- Explain in detail about app environments
- What is CI & build process
- Checking free tier limits
- Working with projects(public, private)
- Configuring our own agents
- Preparing infra for azure CI
- Configuring and testing PR pipeline
- Configuring and testing build pipeline
- Executing build pipeline
- Create and Publish code to azure repo
- Create and import git repo to azure repo



- Configure pipelines with az agents
- Integrate whitesource bolt with azure devops
- Integrate sonarcloud with az devops
- Configure pr pipelines with az devops
- Integrate azure pipelines with az slack
- Working with classic editor
- Pipeline analytics

Module 13: Azure Continuous Delivery

- What is Continuous delivery and deployment
- Configuring basic build pipeline
- Build and deploy the .net core application
- Configure build triggers
- Deploying application in multiple environments
- Approvals & Gates
- Implementing gates using azure policies

Module 14: Azure Continuous Delivery with Dockers

- Introduction to docker
- Build & deploy .net core in docker
- Working with azure container registry(ACR)
- Working with azure container instance
- Working with azure kubernetes service (AKS)
- Build image using azure build pipeline
- Deploying image to AKS using build pipelines
- Build and deploy using release pipelines on app service
- Az release pipeline – AKS deployment
- Working with helmcharts

Module 15: Azure Artifacts



HANDS ON PROJECTS

Project 1: Java Application Deployment with Azure DevOps

In this final project, you will build and deploy a Java-based web application using Azure DevOps. You will implement Continuous Integration (CI) and Continuous Deployment (CD) pipelines to automate the build, test, and deployment processes. Additionally, you will utilize Ansible and Terraform for infrastructure automation, managing code repositories with Git and Azure Repositories.

Project Requirements

- Java Web Application Development
- Azure DevOps Setup
- CI Pipeline Setup
- PR Pipeline Configuration
- CD Pipeline Setup
- Infrastructure Automation with Ansible and Terraform

Project 2: Java Application Deployment with AWS DevOps

In this final project, you will build and deploy a Java-based web application using opensource devops tools on aws. You will implement Continuous Integration (CI) and Continuous Deployment (CD) pipelines to automate the build, test, and deployment processes. Additionally, you will utilize Ansible and Terraform for infrastructure automation, managing code repositories with Git and git hub.

Project Requirements

- Java Web Application Development
- Opensource DevOps Setup
- CI Pipeline Setup
- PR Pipeline Configuration
- CD Pipeline Setup
- Infrastructure Automation with Ansible and Terraform



Success Stories



What Our Learners Say

Feedback from trusted students reflects our commitment to excellence:

“

KSR DataVizon's hands-on training and expert guidance have been instrumental in shaping my career. Their practical approach and real-world insights prepared me perfectly for my role as a Data Analyst at DBG Health. I highly recommend their programs to anyone looking to transition into the IT or analytics field with confidence!

Abhilash Baddam
Data Analyst 

 SAUD 100K

“

At KSR DataVizon, I gained practical experience, industry insights, and strong technical skills. This foundation enabled me to step confidently into my role as a Data Engineer. Highly recommend their programs!

Kamala Narayan
Data Analyst Manager
MNC (UK)

 EGBP 100K

“

Thanks to KSR DataVizon, I turned my passion for data into a thriving career. Through rigorous training, real-world projects, and expert guidance, I gained the skills to design scalable data systems. Today, I'm proud to be a Data Engineer at Anovo. Highly Recommended !

Tirumalarao
Data Analyst 

 100% Hike

“

Joining KSR DataVizon was the first step toward my dream of becoming a Data Analyst. They provided the perfect blend of theory, practical learning, and industry exposure. Highly Recommended !

Ankita Singh
Data Analyst 

 400 % Hike

“

Thanks to KSR Data Vizon, I gained the skills and confidence to secure a Data Analyst position at YMCA. The hands-on training sessions were invaluable, and the expert guidance helped me develop a strong foundation in data analytics. KSR Data Vizon's commitment to real-world learning truly made all the difference in my career journey, and I'm grateful for their support!

Mr. Jitendra Singh
Data Analyst 

 EGBP 30K

“

I trained at KSR DataVizon and secured a Lead Analyst role at Persistent! The expert guidance and hands-on learning here prepared me to excel. The practical, project-based approach helped me gain real-world skills, and the support from mentors was invaluable. I highly recommend KSR DataVizon for anyone serious about advancing their data career!

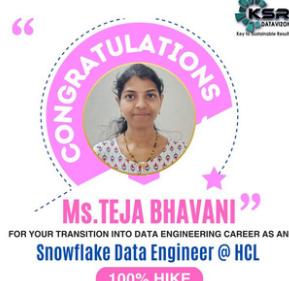
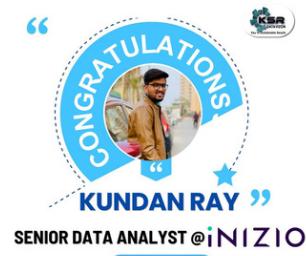
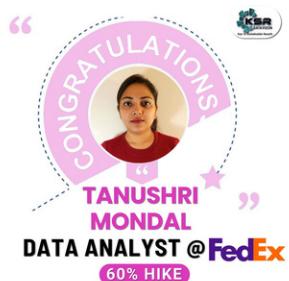
Priya Patil
Lead Analyst 

 50% Hike

<https://courses.datavizon.com/>



OUR PLACEMENTS



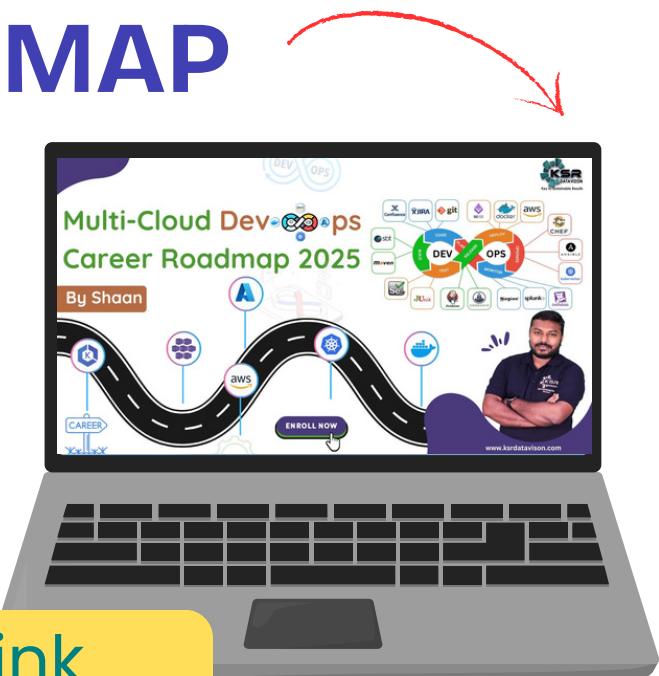


HIRING COMPANIES





MULTI-CLOUD DEVOPS CAREER ROADMAP



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