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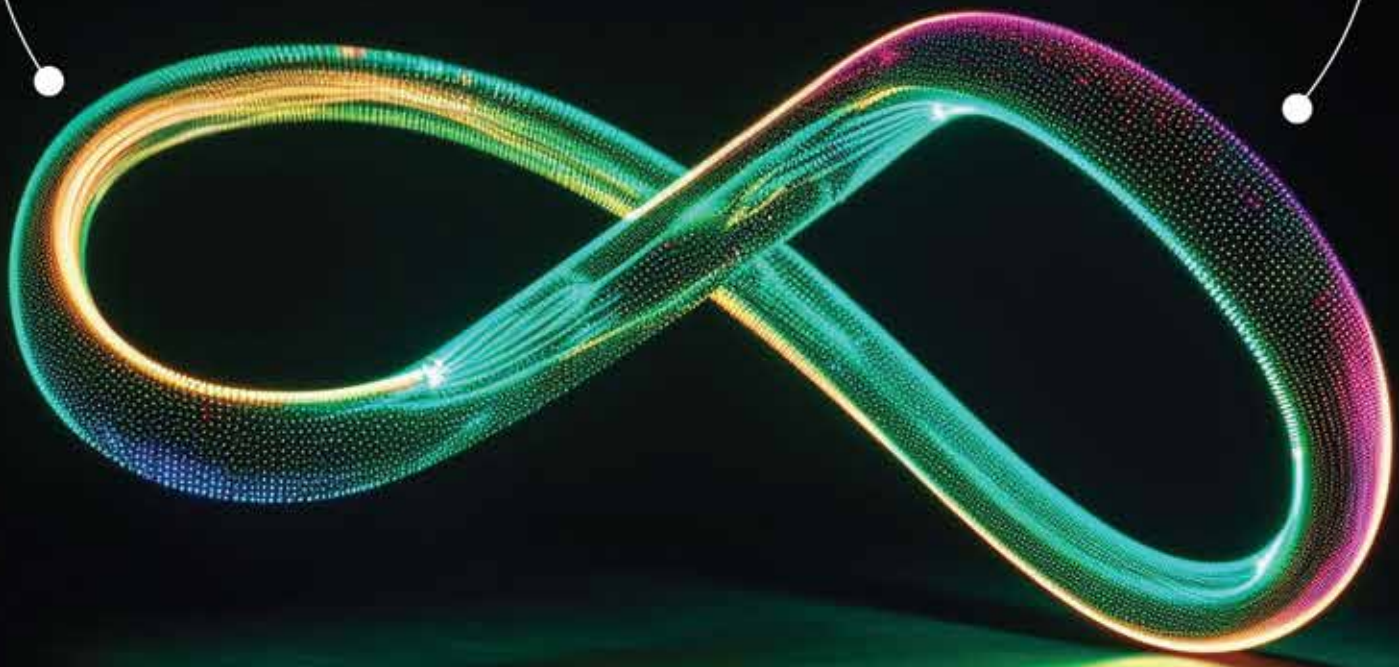
CORPORATE TRAINING

DevOps

Where Development Meets Operations



DevOps CERTIFICATION TRAINING COURSE

www.kapilitshub.com

DevOps Demo Date :

DevOps Time :

DevOps Duration : Months

DevOps Trainer :

DevOps Fee : Rs.

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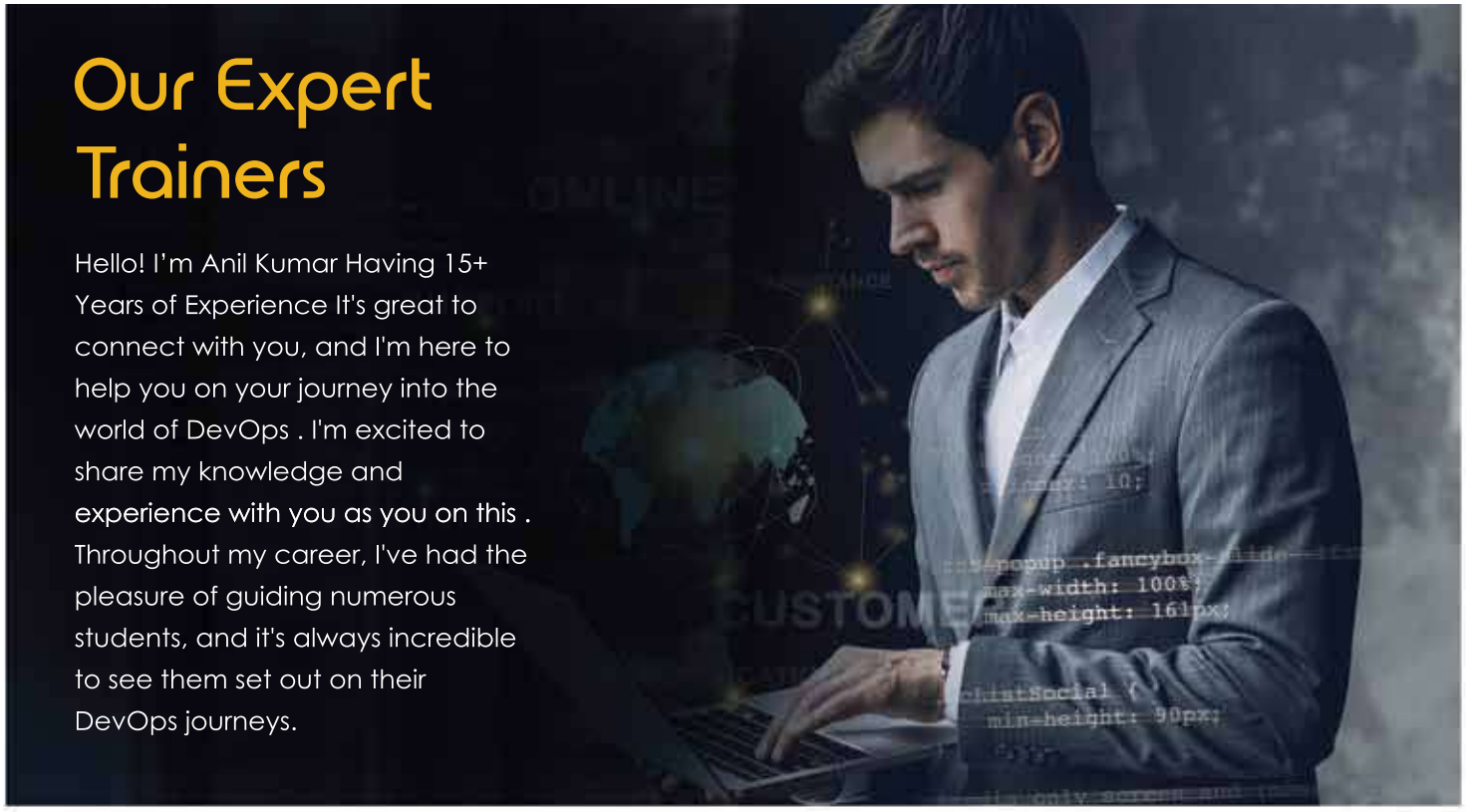
Our Expert Trainers



Hello! I'm Anil Kumar Having 15+ Years of Experience It's great to connect with you, and I'm here to help you on your journey into the world of DevOps . I'm excited to share my knowledge and experience with you as you on this . Throughout my career, I've had the pleasure of guiding numerous students, and it's always incredible to see them set out on their DevOps journeys.

Training Highlights

- Providing individualized support and mentorship to expedite the learning process.
- A hands-on and comprehensive approach that ensures accessibility and empowers everyone to excel through practical learning and understanding.
- Curriculum crafted by industry experts and subject matter authorities, tailored to prepare students for the real-world demands of their chosen field
- Bringing invaluable insights and expertise to the classroom through guest lectures by prominent professionals from top multinational corporations (MNCs).

Program Pedagogy

Instructor-LED Training
Get Trained by top industry experts

1:1 Personalized Learning
Hands on exercises, project work, quizes & capstone projects

Projects and Exercises
Get real-world experience through projects

Hackthons
Get a sense of how real projects are built

Key Highlights

75 Hrs Instructor-Led Training	100% Job Assistance	Internship Opportunities
90 Days Free Lab access	Kapil IT Skill Certification	Corporate Training Environment

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Hottest Job of 21st Century

1.1 Million Job Postings
There is a global estimate of 1.1 million job postings for DevOps roles by 2022

Growing DevOps Industry
35.5% CAGR in the global DevOps industry

Popular Degree
43% of DevOps professionals have a Master's degree

Skill Development
DevOps professionals are equipped with various relevant skills, fetching lucrative job offers

Future oriented Career
DevOps is a budding field; a head start will prove to be beneficia

High Demand
By 2022, India and US will face a demand supply gap of 460,000 DevOps professionals

About the Course

DevOps Training Program will provide you with in-depth knowledge of various DevOps tools including Git, Jenkins, Docker, Ansible, Terraform, Kubernetes, Nagios.
This DevOps Certification training is completely hands-on and designed in a way to help you become a practitioner through best practices in Continuous Development, Configuration Management and Continuous Integration, and finally, Continuous Monitoring of software throughout its development life cycle.

Module 1: Project Management and its Process

Goal: In this module, you will be introduced to the Project Methodologies involved in Software development.

Objectives:

After completing this module, you should be able to

- Understand the SDLC process
- Real-time Development Environments.
- Agile Methodology and its frameworks

Topics:

- SDLC
- New Era of Software Development Methods
- Agile Methodology
- Agile Manifesto
- Agile Scrum Ceremonies
- Agile Scrum Estimation Techniques
- Scrum Team Roles & Responsibilities
- Role of Dev in Agile Scrum
- Role of Ops in Agile Scrum

Module 2: Overview of DevOps

Goal: In this module, you will be introduced to the DevOps environment.

Objectives:

After completing this module, you should be able to

- Understand the benefits of DevOps over other software development processes
- Gain insights into the DevOps environment
- Get an overview of different DevOps Tools
- Understanding Digital Transformation.

Topics:

- Introduction to DevOps Automation
- DevOps Transition.
- Understand the benefits of DevOps over other software development processes
- Benefits of working in a DevOps environment
- DevOps Lifecycle
- DevOps Stages
- Problems the DevOps Solves.
- DevOps Delivery Pipeline

Module 2: Linux for DevOps

Goal: In this module, you will be introduced into the Linux OS.

Objectives:

After Completing this module, you should be able to

- Understand the Architecture of Linux and its Various Distributions
- Gain insights into the Linux commands
- User & Group Administration.
- Working with Shell Scripting to write the Automation scripts.

Topics:

- Understanding Linux Architecture
- Files & Directory Management
- Process & Package Management
- Managing User & Group Management
- Search Operations in Linux
- File Permissions
- System Management
- Networking
  Exploring the IPAddress Settings
  Enabling SSH on the Linux server
  Connecting to the Linux server remotely using SSH
  Using curl and wget utilities.
- Archiving files & directories
- Crontab
- Copy files from Windows to Linux Servers
- SSH key based Authentication.

Shell Scripting:

- Overview of Shells and its importance for DevOps
- Types of Shells
- Variables,Arrays & Operators
- Conditional Statements
- Bash Loops
- Functions
- FileOps
- File Redirect Operations
- AWK , Regular Expressions
- Editors.
- Advanced Real-time Scripts

Module 4: Version Control with Git

Goal: In this module, you will gain insights into Source Control Management and learn the functionalities of Git.

Objectives:

After completing this module, you should be able to

- Understand Version Control
- Perform management of files for small as well as large projects
- Perform various Git commands such as git add, git fetch, git commit, git init, etc.
- Work with remote repositories
- Work with Branches and Adv. Git Commands.

Topics:

- What is Version Control system
- Types of VCS
- Git Introduction
- Git Installation & Configuration
- Commonly used commands in Git
- Advanced Git Commands
- GitHub Actions
- Git Branches and its workflow.
- Working with Remote repository
- Handling Code Merge Conflicts

Hands-On

- Git Common Commands
- Working with Remote Repositories
- Working with Branches & Handle Merge Conflicts

Module 5: MAVEN -Build Tool

Objectives:

After completing this module, you should be able to

- Understand Maven Architecture and dependencies
- Maven Build Process

Topics:

- Issues before in manual process of build process
- Automated build process
- Maven Architecture & Installation
- Maven Life Cycle
- Maven Repositories
- Maven Configuration
- Maven Projects using Maven commands
- Maven Integration with SCM Tools

Hands-On

- Creating Maven projects
- Integration with other tools

Module 6: Continuous Integration with Jenkins

Goal: In this module, learn how to perform Continuous Integration by build application with the help of Maven and Create Deployment using CI/CD pipelines using Jenkins.

Learn about Continuous Integration & its importance Objectives

- After completing this module, you should be able to
- Understand Maven Architecture and dependencies
- Managing Authorization & Authentication in Jenkins
- Understand Jenkins and its features
- Understand working with CI/CD Pipelines.
- Build & Deploy codes using Jenkins

Topics:

- Overview to the CICD Process
- What is Jenkins
- Installation & Configuration of Jenkins
- Introduction to the Continuous Integration
- Setting up Build Jobs and Security
- Jenkins Integrate tool configurations
- Creating & Configuring Jenkins Jobs: Freestyle Vs Pipeline Jobs
- Exploring essential Jenkins plugins for various functionalities

(eg: Git ,Docker, Ansible)

- Configuring authentication and authorization in Jenkins
- Implementing Security best practices in Jenkins instances
- Introduction to Groovy scripting
- Jenkins Declarative-Scripted Pipelines
- CI &CD Pipeline Deployment using Pipeline Script
- Jenkins Master-Slave Node Configuration
- Overview of Notification Email Notification
- CICD Pipeline Project.

Hands-On

- Create Pipeline Views
- Adding Slave node in Jenkins
- Build Pipeline Project using Groovy Script

Module 7: Configuration Management Using Ansible

Goal: Learn how to manage and configure your infrastructure using Ansible Ad-Hoc commands, Playbooks, and Roles.

Objectives

After completing this module, you should be able to

- Utilize Ansible CLI
- Execute Ansible Ad-Hoc Commands for one-off tasks
- Automate host servers using Ansible Playbooks
- Use Variables in Playbooks
- Using Handlers

Topics:

Introduction to Configuration Management

- Infrastructure as Code & its Importance
- Introduction to Ansible
- Ansible Architecture
- Installation & configuration of Ansible
- Working with Inventory files
  - Basic Inventory file
  - Groups in Inventory file
  - Regular expression in the inventory file
- Ansible Modules, Ad-Hoc commands
- Automating Simple tasks using playbooks
- Ansible Playbooks
  - Ansible Playbook commands
  - Terminology in Playbooks
  - Variables in Playbooks
- Ansible Roles
- Best Practices of Ansible
- Project: Real-time Use Case in Ansible integrate with Jenkins, Git and Maven for
- Deployment

Hands on

- Ad-Hoc Commands
- Write & Executing Playbooks
- Using Variables and Event handlers
- Using Ansible Roles

Module 8: Containerization using Docker

Goal: This module introduces learners to the core concepts and technology behind Docker. Learn in detail about containers and various operations performed on them.

Objectives

After completing this module, you should be able to

- Understand Containerization
- Learn the evolution of virtualization to containers
- Understand the Docker Architecture
- Perform Various actions using Docker CLI
- Run containers in different modes
- Write and build a Dockerfile to create a Docker Image
- Use Docker Hub to store custom Images
- Store data in Container Volumes for persistent storage
- Deploy a Swarm Cluster

Topics:

- What is Containerization
- Importance of Containerization & its Use cases
- Difference between Virtualization and Containerization
- Docker Introduction
- Image Management & Registry
- Networking with Docker
- Docker Commands
- Working with Docker files
- Storage & Docker Volumes
- Docker Swarm
- Docker Real Time Use Cases

Hands-On

- Setting up Docker Hub
- Docker Volumes
- Working with Multiple Containers
- Write a Docker and Build Docker images
- Running Docker in Swarm Mode

Module 9: Orchestration using Kubernetes

Goal: : Learn In this module, you will learn about Container Orchestration and Basic of container management using Kubernetes.

Objectives:

After completing this module, you should be able to

- Understand Container Orchestration
- Learn about Kubernetes Core Concept
- Deploy Pods
- Create Deployments to manage Pods

Topics:

- Introduction to Container Orchestration
- Problems – Kubernetes Solves
- Kubernetes Core Concepts
- Kubernetes Cluster Fundamentals
- Microservices
- Understanding Pods
- Kubernetes Cluster Setup
- Replica Set and Replication Controller
- Networking and Ingress Management
- Helm & Packaging
- Blue/Green Deployments in real-time - - -
  - Overview of Blue-green deployments
  - How it works in real time projects
  - Advantages of Blue-Green Deployment techniques

Hands-On

- Kubectl Common Commands
- Deployments
- Kubernetes for micro services
- Master-Node cluster setup on Cloud
- How pod works
- Scaling in Kubernetes

Module 10: Provisioning using Terraform

Goal: Learn how to provision and manage infrastructure on a Cloud Platform (AWS) using Terraform Configuration Files.

Objectives

After completing this module, you should be able to
Understand Provisioning using Terraform

- Learn the Difference between Terraform vs Ansible
- Understand Terraform Architecture
- Deploy a Terraform Configuration File
- Use Basic Terraform Commands
- Manage Terraform Resources
- Perform Terraform State Commands

Topics:

- Overview and Importance of Infrastructure as Code(IaC)
- Introduction to Terraform
- Terraform vs Ansible
- Terraform Architecture
- Terraform Configuration
- Terraform Common Commands
- Managing Terraform Resources
- Terraform State
- Creating Realtime Terraform templates

Hands-On

- Setting Up AWS and Terraform
- Executing a Terraform Configuration
- Managing Terraform Resources
- Referencing Terraform Resources
- Terraform State commands

Module 11: Provisioning using Terraform

Goal: Learn how to continuously monitor your tasks using various plugins and implementing Nagios Commands

Objectives

After completing this module, you should be able to

- Operate Continuous Monitoring tools
- Use various plugins and objects associated with Nagios
- Implement Nagios commands

Topics:

- Introduction to Continuous Monitoring
- Introduction to Nagios
- Installing Nagios
- Nagios Plugins(NRPE) and Objects
- Nagios Commands and Notification
- Hands-On
- Installing Nagios
- Monitoring of different servers using Nagios

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Soft Skills

Roots of Communication	**LSRW** **7 Cs of Communication**	**Mastering Helping Verb And Main Verb**
Roots of Grammar	**Parts of Speech** **Sentence Structure Development** **Tense Logic** **Worksheet Sessions**	
Speech Intelligence	**Vocabulary Development** **Usage of words** **Group Discussions** **JAMS** **Debates** **Public Speaking**	
Personality Development	**Imagination and Innovation Training** **Centralized Brain Storming** **Problem Solving Skill s** **Decision Making**	
Mangement Skills	**Time Management** **Team Building** **Task Management** **Leadership Skills**	
Interview Skills	**Employbility** **Think like a Professional** **Clearing HR Rounds** **Salary Negotiation** **Bond Negotiation**	
Presentation Skills	**Research Skills** **Public Speaking** **Visualization** **White Board Presentation** **Mastering Powerpoint** **Content Creation**	**Dream Company Reading Skillls Comprehension Skills**
Personality Development	**Mind Mapping** **Role plays** **Mock Interview on the Hot Seat** **Listening Skills** **Critical Thinking** **Thought Analysis** **SWOT Analysis**	

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