DevOps Automation

Duration: 3 Days **Course Code: GK840253** **Delivery Method: Closed Events**

Overview:

Automate and streamline your DevOps processes with expert guidance and hands-on experience.
DevOps Automation is designed to equip IT professionals and DevOps practitioners who want to enhance their skills in automating and streamlining software development and deployment processes. This course covers a broad spectrum of topics, including Continuous Integration and Continuous Deployment (CI/CD) pipelines, Infrastructure as Code (IaC), containerization, orchestration, monitoring, and security practices. Participants will learn to use tools like Jenkins, GitHub Actions, Terraform, Docker, Kubernetes, Prometheus, and Grafana to automate the creation, modification, and deletion of infrastructure resources, ensuring efficient and scalable deployments.
Through hands-on labs and real-world scenarios, participants will gain practical experience in implementing DevOps best practices and optimizing cloud automation strategies. This course also highlights the importance of integrating security into DevOps workflows, ensuring that automated processes are secure and compliant.
By the end of the course, attendees will be equipped to design and implement fully automated DevOps workflows that integrate CI/CD, IaC, monitoring, and security, ultimately improving the efficiency and reliability of their software development and deployment processes. This course is ideal for professionals aiming to stay ahead in the rapidly evolving field of DevOps and automation.

Company Events

These events can be delivered exclusively for your company at our locations or yours, specifically for your delegates and your needs. The Company Events can be tailored or standard course deliveries.

Target Audience:

- Cloud engineers, DevOps practitioners, and IT professionals aiming to learn DevOps automation practices.
- Developers and administrators automating and managing infrastructure effectively.
- Professionals implementing DevOps best practices with automation tools.

Objectives:

- Explain the core principles of DevOps and the role of automation in modern software development
- Configure CI/CD pipelines using Jenkins, GitHub Actions, or GitLab CI to automate software builds and deployments
- Implement Infrastructure as Code (IaC) using Terraform or Ansible to automate provisioning and configuration
- Containerize applications using Docker and deploy them with Kubernetes for automated orchestration.
- Monitor and analyze system performance using Prometheus, Grafana, and log management tools.
- Secure DevOps workflows by integrating DevSecOps practices, including automated security scans and policy enforcement.
- Optimize cloud automation strategies by leveraging AWS, Azure, or GCP services for efficient resource management.
- Design a fully automated DevOps workflow that integrates CI/CD, IaC, monitoring, and security

Prerequisites:

- Basic understanding of cloud services and infrastructure.
- Familiarity with CLI tools and scripting.
- Knowledge of foundational DevOps principles and practices.
- Experience with version control systems like Git (recommended).

Content:

1- Introduction to DevOps and Automation

- Overview of DevOps principles and practices.
- Importance of automation in DevOps.

2- CI/CD Pipelines

- Setting up and configuring CI/CD pipelines.
- Integrating CI/CD with version control systems.

3- Version Control Systems

- Using Git for version control.
- Branching and merging strategies.

4- Infrastructure as Code (IaC) Concepts and Tools

- Introduction to IaC and its benefits.
- Using Terraform and other IaC tools.

5- Containerization and Orchestration

- Introduction to Docker and Kubernetes.
- Deploying applications using containers and orchestration tools.

6- Monitoring and Logging Tools

- Setting up monitoring and logging for infrastructure.
- Using tools like Prometheus, Grafana, and ELK stack.

7- Automation Scripting and Tools

- Writing scripts to automate tasks.
- Using tools like Ansible and Chef.

8- Configuration Management and Provisioning

- Managing infrastructure configurations.
- Provisioning resources using configuration management tools.

9- Best Practices for Scaling and Optimizing Deployments

- Ensuring efficient and scalable deployments.
- Tools and techniques for optimization.

Further Information:

For More information, or to book your course, please call us on 00 966 92000 9278

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