

Scandinavian Academy Training Center

Mobile | 00966536473335 : Mobile | 00966112695229 : Phone : 00966552365295
Email | info.en@scandinavianacademy.co Web site:https://scandinavianacademy.co/en :
Riyadh - Al Khaleej District - Sheikh Abdul Aziz Bin Abdul Rahman Bin Bishr Street - 13223 - Office No. 5 | P.O.BOX : 13224

Course: CI CD Pipelines : Continuous Integration Continuous Deployment Pipelines

Code	City	hotel	Start	End	price	Language - Hours
IT-829SA	Abha	Hotel Meeting Room	2027-02-07	2027-02-11	9950 SR	En - 25

Introduction:

Welcome to the "CI/CD Pipelines - Accelerating Software Delivery" course! In today`s fast-paced world, Continuous Integration (CI) and Continuous Deployment (CD) have become essential practices for modern software development. This 5-day course is designed to equip you with the knowledge and skills needed to implement effective CI/CD pipelines, streamline development workflows, and deploy software applications with confidence.

Course Objectives:

- Define the concepts of Continuous Integration and Continuous Deployment.
- Grasp the importance of automation in software development processes.
- Learn essential Git commands and workflows.
- Understand the role of version control in CI/CD pipelines.
- Configure and set up CI tools such as Jenkins, GitLab CI/CD, or Travis CI.
- Write and execute automated tests within CI pipelines.
- Comprehend the significance of artifact management.
- Integrate artifact repositories into CI/CD pipelines.
- Examine various deployment strategies like blue-green and canary releases.
- Learn to automate application deployment to different environments.
- Understand Docker basics and create containerized applications.
- Explore Kubernetes for container orchestration.
- Implement Infrastructure as Code (IaC) using tools like Terraform.
- Integrate continuous monitoring and logging into CI/CD pipelines.

- Identify best practices for scalable, secure, and maintainable CI/CD pipelines.
- Implement continuous improvement strategies.

Personal Impact

- Gain a deep understanding of CI/CD pipelines, enabling you to become a valuable contributor to modern software development teams.
- Learn to automate and streamline workflows, saving time and reducing the risk of manual errors in software delivery.
- Develop the ability to troubleshoot issues in the CI/CD process and identify effective solutions.
- Acquire skills in demand in the software development and DevOps industry, improving your career opportunities and prospects.
- Master deployment strategies and tools, allowing you to deploy applications seamlessly with reduced downtime and risks.
- Build the capability to lead or collaborate in implementing CI/CD strategies within your organization.

Organisational Impact

- Streamlined workflows and automated pipelines will enable quicker development, testing, and deployment of software, reducing time-to-market for applications.
- Implementing Continuous Integration (CI) and automated testing ensures early detection of bugs, leading to more stable and reliable software releases.
- Adoption of version control systems and CI/CD practices fosters better collaboration among teams and eliminates inefficiencies in the development process.
- Deployment strategies like blue-green and canary releases minimize downtime and risks associated with rolling out updates to production.
- Automation of repetitive tasks and improved resource management, such as using Infrastructure as Code (IaC) and container orchestration, reduce operational costs.
- Leveraging tools like Kubernetes and Terraform allows the organization to build scalable, containerized applications that are easier to manage in complex

environments.
- Incorporating best practices in CI/CD pipelines ensures secure handling of code, artifacts, and deployments, reducing vulnerabilities.
- Encouraging a mindset of continuous monitoring, feedback, and improvement leads to long-term gains in productivity and innovation.

Who Should Attend?

- Software Developers:
- DevOps Engineers:
- System Administrators:
- QA Engineers:
- IT Managers and Team Leads:
- Cloud and Infrastructure Engineers:
- Project Managers in IT:
- Technical Enthusiasts and Students:

Course Outline:

Day 1: Introduction to CI/CD and Version Control Systems

- Overview of CI/CD
- Importance of Automation
- Introduction to Git and Version Control
- Collaborative Development with Git

Day 2: Continuous Integration (CI) Fundamentals and Jenkins

- CI Concepts and Benefits
- Jenkins Installation and Configuration
- Writing and Running Tests in CI Pipelines
- Integrating Git with Jenkins

Day 3: Artifact Management and CI/CD Integration

- Understanding Artifacts
- Artifact Repositories (Nexus, Artifactory)
- Integrating Artifact Management with CI/CD
- Handling Dependencies

Day 4: Continuous Deployment (CD) Strategies and Containerization

- Overview of CD
- Deployment Strategies (Blue-Green, Canary)
- Introduction to Docker and Containerization
- Building Docker Images

Day 5: Kubernetes, Advanced Concepts, and Best Practices

- Kubernetes Basics and Orchestration
- Infrastructure as Code (IaC) with Terraform
- Continuous Monitoring and Logging
- CI/CD Best Practices and Continuous Improvement

The Scandinavian Academy for Training Center adopts the latest scientific and professional methodologies in training and human resource development, aiming to enhance the efficiency of individuals and organizations. Training programs are delivered through a comprehensive approach that includes:

- Theoretical lectures supported by PowerPoint presentations and visual materials (videos and short films).
- Scientific evaluation of participants before and after the program to measure progress and knowledge acquisition.
- Brainstorming sessions and practical role-playing to simulate real-life scenarios.
- Case studies tailored to align with the training content and participants work nature.
- Assessment tests conducted at the end of the program to evaluate the achievement of training objectives.

Each participant receives the training material (both theoretical and practical) in printed form and saved on a CD or flash drive. Detailed reports, including attendance records, final results, and overall program evaluations, are also provided.

Training materials are prepared professionally by a team of experts and specialists in various fields. At the end of the program, participants are awarded a professional attendance certificate, signed and accredited by the Scandinavian Academy for Training Center.

Program Timings: 9:00 AM to 2:00 PM

The program includes:

- A daily buffet provided during the sessions to ensure participants comfort.
- A closing ceremony on the final day to distribute certificates and celebrate participants achievements.
- **Note: All prices are exclusive of 15% Value Added Tax (VAT).**

Our Success Partners

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المملكة العربية السعودية - الرياض - حي الخليج - شارع الشيخ عبد العزيز بن عبد الرحمن بن بشر - 13223 - مكتب رقم 5
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