Faysal Aziz

HyperConverged Infrastructure

Using Kubernetes, containerization with Docker and cloud architecture

FA-0241

DevOps, Cloud & Infrastructure

Introduction

Duration: 2 days (highly intensive) or 3 days (at a relaxed pace)

Welcome to an immersive 2-day journey into the world of cloud technologies, containerization, Hyper Converged Infrastructure (HCI), and Ubuntu Linux, tailored specifically for the financial sector.

In today's digital era, the finance department's landscape is rapidly evolving, driven by the need for greater efficiency, security, and innovation. Understanding and leveraging these technologies can significantly enhance the agility and competitiveness of financial operations.

This course is designed to provide you with a comprehensive understanding of these critical technologies, focusing on practical applications and strategic insights relevant to finance. Prepare to unlock new potentials in data processing, application deployment, and infrastructure management, setting a new standard for operational excellence in your organization.

Learning outcomes

Upon completing this course, you will be able to:

- Understand the key concepts and benefits of cloud computing, Kubernetes, Docker, HCI, and Ubuntu Linux.
- Deploy and manage containerized financial applications using Docker and Kubernetes.

- Navigate and utilize Ubuntu Linux as the operating system for cloud environments and virtual machines.
- Integrate HCI into your finance department's technological suite for improved efficiency and scalability.
- Ensure compliance and security while leveraging these technologies in financial operations.
- Identify and mitigate risks associated with digital transformation in finance.
- Strategically plan the adoption of these technologies to drive innovation and growth within your finance department.

Prerequisites

For an optimal learning experience, participants should have:

- A basic understanding of IT and networking concepts.
- Familiarity with the principles of virtualization.
- An introductory knowledge of operating systems, preferably Linux.

Training outline

1. Cloud Computing Foundations

1. Introduction to Cloud Computing
2. Service Models: IaaS, PaaS, SaaS
3. Cloud Deployment Models: Public, Private, Hybrid
4. Cloud Computing Advantages for the Finance Sector
5. Security and Compliance in the Cloud

2. Ubuntu Linux for Cloud and Virtual Machines

1. Introduction to Ubuntu Linux
2. Installing Ubuntu on Cloud Platforms and Virtual Machines
3. Command Line Essentials
4. Managing Packages and Services
5. Security and User Management
6. Networking and Firewalls in Ubuntu
7. Automating Tasks with Cron Jobs and Shell Scripts
8. Monitoring and Troubleshooting

3. Containerization with Docker

1. Understanding Docker and Containerization
2. Installing Docker on Ubuntu
3. Docker Containers: Creation, Management, and Deployment
4. Building Docker Images for Financial Applications
5. Docker Compose: Managing Multi-container Applications
6. Docker Networking and Security Best Practices

4. Kubernetes Orchestration

1. Kubernetes Overview and Core Concepts
2. Setting Up a Kubernetes Cluster on Ubuntu
3. Deploying and Managing Applications with Kubernetes
4. Autoscaling and Managing Resources
5. Implementing Kubernetes in the Finance Sector: Use Cases and Best Practices
6. Kubernetes Security and Network Policies

5. Hyper Converged Infrastructure (HCI)

1. HCI Fundamentals
2. Benefits of HCI for Finance: Efficiency, Scalability, and Resilience
3. Integrating HCI with Cloud and Ubuntu Linux Environments
4. HCI Management Tools and Practices
5. HCI for Disaster Recovery and Business Continuity

6. Practical Financial Applications

1. Case Studies: Real-World Implementations in Finance
2. Containerizing and Orchestrating Financial Workloads
3. Utilizing HCI for Financial Data Analysis and Reporting
4. Security and Compliance Strategies for Financial Data

7. Risk Management and Mitigation

1. Identifying Risks in Cloud, Kubernetes, Docker, HCI, and Ubuntu Environments
2. Compliance with Financial Industry Standards and Regulations

3. Implementing Robust Security Measures

8. Emerging Technologies and Future Trends

1. Innovations in Cloud, Containers, and HCI
2. The Role of Artificial Intelligence and Machine Learning in Finance
3. Preparing for Future Technological Developments

This course combines theoretical knowledge with practical exercises, ensuring a deep understanding of each topic and its application within the finance department.

By the end of this training, you will be well-equipped to navigate the complexities of modern IT infrastructure in the financial sector, driving efficiency, innovation, and growth.

The trainer may not be following the sequence of topics listed but rather use an iterative approach to training.

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