Training Course on Cloud Computing Strategy and Governance for Libraries

Professional Development Training Course Outline

Category	Library Institute	**Duration**	10 Days
Base Fee	$3,000 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

Training Course on Cloud Computing Strategy and Governance for Libraries

Introduction

The digital transformation era presents both unprecedented opportunities and complex challenges for libraries worldwide. **Cloud computing** has emerged as a **disruptive technology**, offering unparalleled **scalability, accessibility, and cost-efficiency** for managing vast information resources and delivering innovative services. However, successfully leveraging the cloud requires a robust **strategic framework** and diligent **governance policies** to ensure **data security, compliance, and optimal resource utilization**. Training Course on Cloud Computing Strategy and Governance for Libraries will equip library professionals with the essential knowledge and practical skills to navigate the complexities of cloud adoption, enabling them to build resilient, future-proof library ecosystems.

Libraries are increasingly embracing **digital initiatives**, from **e-resource management** and **digital preservation** to **virtual learning environments** and **community engagement platforms**. Cloud computing provides the underlying **infrastructure-as-a-service (IaaS), platform-as-a-service (PaaS), and software-as-a-service (SaaS)** solutions necessary to support these endeavors. This training focuses on developing a holistic **cloud strategy** that aligns with library missions, establishes clear **governance models**, mitigates **cybersecurity risks**, and optimizes **cloud spend**, ensuring libraries remain vital hubs of information and innovation in the **digital age**.

Course Duration

10 days

Course Objectives

1. Formulate a strategic roadmap for **cloud migration** and **hybrid cloud** deployment tailored for library environments.

2. Differentiate between **IaaS, PaaS, and SaaS** and determine their optimal application in library services.
3. <span style="font-size: 12.0pt; font-family: 'Times N

Programme Curriculum

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Course Objectives

1. Formulate a strategic roadmap for **cloud migration** and **hybrid cloud** deployment tailored for library environments.
2. Differentiate between **IaaS, PaaS, and SaaS** and determine their optimal application in library services.
3. Implement effective **cloud governance policies** for **cost management, security, and compliance** in library operations.
4. Identify and address **cybersecurity threats**, **data privacy concerns**, and establish robust **cloud security** protocols.
5. Implement strategies for **cloud cost optimization**, **resource efficiency**, and **budget planning** using **FinOps** principles.
6. Navigate **regulatory compliance (GDPR, local data laws)** and **data sovereignty** issues in cloud environments.
7. Critically assess leading **cloud platforms (AWS, Azure, Google Cloud)** based on library-specific needs and **vendor lock-in** considerations.
8. Develop practical plans for **legacy system migration**, **data integration**, and **API management** within a cloud context.

9. Explore the potential of **serverless computing, containers (Kubernetes, Docker)**, and **microservices** for innovative library applications.
10. Design and test **disaster recovery** and **business continuity plans** utilizing cloud resilience features.
11. Understand the application of **AI-as-a-Service** and **generative AI** for enhancing library discovery and user experience.
12. Cultivate organizational readiness, **staff training**, and **change management** for successful cloud adoption.
13. Establish metrics for evaluating **cloud return on investment** and continuous **performance monitoring**.

Organizational Benefits

- Provide 24/7 global access to library resources and services, supporting **remote learning** and **digital inclusion**.
- Reduce capital expenditure on hardware, minimize operational costs, and leverage **pay-as-you-go models**.
- Dynamically scale IT infrastructure to meet fluctuating user demands and grow digital collections without physical constraints.
- Implement robust **data protection**, **backup solutions**, and rapid **disaster recovery** capabilities.
- Accelerate the deployment of new digital services and applications, fostering a culture of **digital innovation**.
- Automate routine IT tasks, freeing up library staff to focus on core information services and user engagement.
- Facilitate inter-library collaboration and resource sharing through shared cloud platforms.
- Position the library at the forefront of **emerging technologies** and adapt to future technological advancements.

Target Audience

1. Library Directors and IT Managers.
2. Systems Librarians
3. Digital Initiatives Coordinators.
4. Archivists and Special Collections Professionals
5. Information Professionals.
6. Academic and Public Librarians
7. Consultants and Vendors.
8. Anyone involved in library technology planning and implementation.

Course Outline

Module 1: Introduction to Cloud Computing for Libraries

- Defining Cloud Computing: IaaS, PaaS, SaaS models and their relevance to libraries.
- Benefits of Cloud Adoption for Libraries: Scalability, accessibility, cost reduction, disaster recovery.
- Challenges and Risks of Cloud Computing: Security, vendor lock-in, compliance, integration.
- Evolution of Library Technology and Cloud Trends: From on-premise to hybrid and multi-cloud strategies.
- **Case Study:** *The State of Cloud Adoption in Academic Libraries: An overview of early adopters and their motivations.*

Module 2: Developing a Cloud Strategy for Libraries

- Aligning Cloud Strategy with Library Mission and Goals: Vision, objectives, and key performance indicators.
- Assessing Current IT Infrastructure and Needs: Inventory, dependencies, and pain points.
- Building a Business Case for Cloud Migration: ROI, TCO, and strategic advantages.
- Defining Cloud Adoption Models: Public, Private, Hybrid, and Multi-Cloud considerations.
- **Case Study:** *University of Michigan Library's journey to a hybrid cloud environment for digital preservation and discovery.*

Module 3: Cloud Governance Fundamentals

- Principles of Effective Cloud Governance: Accountability, transparency, policy enforcement.
- Key Pillars of Cloud Governance: Cost management, security, compliance, operations, performance.
- Establishing a Cloud Governance Framework: Roles, responsibilities, and decision-making processes.
- Policy Development for Cloud Services: Data access, usage, and retention policies.
- **Case Study:** *Implementing a robust governance framework at a large public library system for managing patron data in the cloud.*

Module 4: Cloud Security and Data Privacy

- Understanding the Shared Responsibility Model in the Cloud.
- Cloud Security Best Practices: Encryption, access control, network security, threat detection.
- Data Privacy Regulations and Compliance: GDPR, CCPA, and national data protection laws impacting libraries.
- Managing Sensitive Library Data in the Cloud: Patron information, intellectual property, research data.
- **Case Study:** *Securing digital archives in a public cloud environment, addressing privacy concerns and data sovereignty.*

Module 5: Cloud Cost Optimization (FinOps for Libraries)

- Introduction to FinOps Principles: Culture, practices, and tools for cloud financial management.
- Strategies for Cost Reduction: Rightsizing, reserved instances, spot instances, automation.
- Budgeting and Forecasting Cloud Spend: Monitoring usage, identifying inefficiencies.
- Vendor Pricing Models and Negotiation: Understanding billing, discounts, and egress fees.
- **Case Study:** *How a university library significantly reduced its cloud storage costs by implementing data lifecycle management and tiered storage.*

Module 6: Cloud Migration Strategies

- Assessing Migration Readiness: Technical, organizational, and financial considerations.
- Migration Approaches: Rehost, replatform, refactor, repurchase, retire, retain.
- Planning and Executing a Cloud Migration Project: Phased approaches, testing, rollback plans.
- Minimizing Disruption during Migration: Communication, change management for users.
- **Case Study:** *The successful migration of a library's Integrated Library System (ILS) to a SaaS platform, highlighting challenges and lessons learned.*

Module 7: Integrated Library Systems (ILS) and Cloud Solutions

- Evolution of ILS to Cloud-Based Library Services Platforms (LSPs).
- Evaluating Cloud-Native ILS Solutions: Key features, integration capabilities, vendor support.
- Benefits and Challenges of Cloud-Based ILS: Accessibility, maintenance, customization.
- Integrating Cloud ILS with Other Library Systems: Discovery layers, digital repositories.
- **Case Study:** *How a consortium of libraries transitioned to a shared cloud-based LSP, improving resource sharing and collaboration.*

Module 8: Digital Preservation and Cloud Storage

- Challenges of Digital Preservation in the Cloud: Long-term accessibility, format obsolescence.
- Cloud Storage Options for Digital Assets: Object storage, archival storage, data redundancy.
- Developing Cloud-Based Digital Preservation Policies: Ingest, metadata, access, preservation actions.
- Ensuring Data Integrity and Authenticity in Cloud Environments.
- **Case Study:** *The Internet Archive's use of massive cloud storage for its vast digital collections and long-term preservation efforts.*

Module 9: Cloud-Native Applications and Development for Libraries

- Introduction to Cloud-Native Architecture: Microservices, containers (Docker, Kubernetes), serverless computing.
- Developing and Deploying Cloud-Native Library Applications: Benefits and use cases.
- API Management and Integration with Cloud Services: Connecting disparate systems.
- Leveraging Platform-as-a-Service (PaaS) for Rapid Development.
- **Case Study:** *A library developing a custom mobile application for patron services using serverless functions and cloud APIs.*

Module 10: Artificial Intelligence (AI) and Machine Learning (ML) in the Cloud

- Overview of AI-as-a-Service (AIaaS) in Cloud Platforms.
- Applications of AI/ML in Libraries: Enhanced discovery, personalized recommendations, automated cataloging.
- Ethical Considerations for AI in Libraries: Bias, privacy, transparency.
- Utilizing Cloud-Based AI/ML Tools: Natural Language Processing (NLP), image recognition.
- **Case Study:** *A library using cloud-based AI to analyze usage patterns and improve resource recommendations for patrons.*

Module 11: Cloud Networking and Connectivity

- Understanding Cloud Networking Fundamentals: Virtual Private Clouds (VPCs), subnets, routing.
- Ensuring Secure Connectivity: VPNs, direct connect, network segmentation.
- Bandwidth Management and Performance Optimization for Cloud Services.
- Hybrid Cloud Networking Strategies: Connecting on-premise infrastructure to the cloud.
- **Case Study:** *Optimizing network performance for a large academic library accessing cloud-hosted databases and streaming media.*

Module 12: Vendor Management and Cloud Service Level Agreements (SLAs)

- Selecting Cloud Vendors: Due diligence, security assessments, financial stability.

- Negotiating Cloud Contracts and SLAs: Key performance indicators, uptime guarantees, support.
- Managing Vendor Relationships and Performance: Regular reviews, escalation processes.
- Exit Strategies and Data Portability: Planning for future transitions.
- **Case Study:** *A library navigating a complex vendor relationship with a major cloud service provider, focusing on contract terms and service delivery.*

Module 13: Building a Cloud-Savvy Library Team

- Identifying Required Cloud Skills for Library Staff: Technical and soft skills.
- Training and Professional Development Programs: Certifications, workshops, continuous learning.
- Fostering a Culture of Innovation and Adaptability.
- Change Management for Cloud Adoption: Addressing resistance, promoting buy-in.
- **Case Study:** *A library implementing a comprehensive training program to upskill its IT and public services staff on new cloud-based tools.*

Module 14: Measuring Cloud ROI and Performance

- Defining Metrics for Cloud Success: Cost savings, user satisfaction, service uptime, innovation.
- Tools and Techniques for Cloud Performance Monitoring: Dashboards, alerts, logging.
- Reporting Cloud Performance to Stakeholders: Library leadership, institutional IT, funding bodies.
- Continuous Improvement in Cloud Operations: Iterative optimization and feedback loops.
- **Case Study:** *Tracking the quantifiable benefits of a library's move to a cloud-based digital asset management system.*

Module 15: Future Trends in Cloud Computing for Libraries

- Edge Computing and its Implications for Libraries: Local data processing, smart buildings.
- Quantum Computing and its Potential Impact: Research, complex data analysis.
- Blockchain Technology in the Cloud: Digital rights management, secure record keeping.
- Sustainability in Cloud Computing: Green IT practices, energy efficiency.
- **Case Study:** *Exploring a pilot project where a library uses edge computing for enhanced in-building navigation and real-time resource availability.*

Training Methodology

This course will employ a blended learning approach, combining:

- **Instructor-Led Presentations:** Engaging lectures with theoretical foundations and practical insights.
- **Interactive Discussions:** Fostering peer-to-peer learning and knowledge sharing.
- **Practical Exercises & Workshops:** Hands-on activities to apply concepts and build skills.
- **Case Studies Analysis:** In-depth examination of real-world library cloud implementations.
- **Q&A Sessions:** Addressing specific challenges and clarifying concepts.
- **Guest Speakers:** Industry experts sharing their experiences and best practices.

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	04 Dec 2026	Online	$2,000
23 Nov 2026	04 Dec 2026	Physical	$3,000
23 Nov 2026	04 Dec 2026	Physical	$6,000
23 Nov 2026	04 Dec 2026	Physical	$6,000
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$9,000
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$12,000

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