

Cloud Computing

Day 1: Introduction to Cloud Computing

Session Overview: Day 1 introduces the fundamentals of cloud computing, including its key concepts, deployment models, and service models.

- · 10:00 AM 10:15 AM: Welcome & Introduction
- · Overview of the workshop and introduction to cloud computing.
- 10:15 AM 11:15 AM: Cloud Computing Basics
- Understanding the core concepts of cloud computing, including on-demand services, scalability, and virtualization.
- · 11:15 AM 11:30 AM: Break
- 11:30 AM 1:00 PM: Cloud Deployment Models
- Learn about different deployment models: Public, Private, Hybrid, and Community clouds.
- · 2:00 PM 2:15 PM: Recap and Q&A
- · Quick review of concepts and addressing participant questions.
- · 2:15 PM 3:15 PM: Cloud Service Models
- · Overview of service models: IaaS, PaaS, and SaaS, and their use cases.
- · 3:15 PM 3:30 PM: Break
- · 3:30 PM 5:00 PM: Hands-on: Introduction to Cloud Platforms
- · Set up accounts and explore popular cloud platforms (AWS, Azure, Google Cloud).







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Day 2: Virtualization and Networking in Cloud

Session Overview: Day 2 dives deeper into cloud virtualization technologies and networking concepts essential for cloud computing.

- · 10:00 AM 10:15 AM: Recap of Day 1
- · Review cloud computing concepts and services models discussed on Day 1.
- 10:15 AM 11:15 AM: Virtualization Technology
- Learn about virtual machines, containers, and hypervisors in the context of cloud computing.
- · 11:15 AM 11:30 AM: Break
- 11:30 AM 1:00 PM: Cloud Networking Concepts
- Understand networking in the cloud, including VPCs (Virtual Private Cloud), subnets, IP addressing, and security groups.
- · 2:00 PM 2:15 PM: Recap and Q&A
- · Address questions and review key points.
- · 2:15 PM 3:15 PM: Load Balancing and Auto-scaling
- Learn how load balancing and auto-scaling help manage traffic and ensure high availability in the cloud.
- · 3:15 PM 3:30 PM: Break
- 3:30 PM 5:00 PM: Hands-on: Setting up Virtual Machines and Networks
- Practical session on creating virtual machines, setting up networking, and configuring load balancing.







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Day 3: Cloud Storage and Databases

Session Overview: This day covers cloud storage solutions and database services that are key components in cloud infrastructure.

- · 10:00 AM 10:15 AM: Recap of Day 2
- · Brief review of virtualization and cloud networking topics.
- 10:15 AM 11:15 AM: Cloud Storage Solutions
- Introduction to cloud storage options: object storage, block storage, and file storage.
- · 11:15 AM 11:30 AM: Break
- · 11:30 AM 1:00 PM: Cloud Databases
- · Learn about cloud-based databases, including relational (RDS) and NoSQL databases.
- · 2:00 PM 2:15 PM: Recap and Q&A
- · Review and address any doubts about cloud storage and databases.
- · 2:15 PM 3:15 PM: Data Backup and Recovery in the Cloud
- · Learn about cloud backup solutions and disaster recovery strategies.
- · 3:15 PM 3:30 PM: Break
- 3:30 PM 5:00 PM: Hands-on: Implementing Cloud Storage and Databases
- Practical session on setting up cloud storage and configuring cloud databases (AWS S3, Azure Blob Storage, Google Cloud Storage).



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Day 4: Cloud Security and Compliance

Session Overview: Day 4 focuses on understanding cloud security, compliance requirements, and best practices for protecting data in the cloud.

- 10:00 AM 10:15 AM: Recap of Day 3
- · Quick recap of cloud storage and databases concepts.
- 10:15 AM 11:15 AM: Cloud Security Fundamentals
- Learn about security in the cloud, including encryption, IAM (Identity and Access Management), and data privacy.
- · 11:15 AM 11:30 AM: Break
- 11:30 AM 1:00 PM: Compliance and Legal Considerations
- Overview of compliance standards such as GDPR, HIPAA, and SOC 2, and their implications in cloud computing.
- · 2:00 PM 2:15 PM: Recap and Q&A
- · Review key security and compliance points and answer questions.
- · 2:15 PM 3:15 PM: Cloud Security Tools
- Introduction to security tools and services offered by cloud providers to monitor, detect, and prevent security breaches.
- · 3:15 PM 3:30 PM: Break
- 3:30 PM 5:00 PM: Hands-on: Implementing Cloud Security Best Practices
- Practical session on configuring security measures in cloud environments (firewalls, IAM policies, encryption).







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Day 5: Advanced Cloud Services and DevOps in Cloud

Session Overview: The final day explores advanced cloud services, including DevOps and serverless computing, and covers how to automate cloud deployments.

- · 10:00 AM 10:15 AM: Recap of Day 4
- · Review cloud security and compliance topics from the previous day.
- 10:15 AM 11:15 AM: Introduction to DevOps
- Understand DevOps practices and how they integrate with cloud computing for continuous integration and delivery.
- · 11:15 AM 11:30 AM: Break
- 11:30 AM 1:00 PM: Serverless Computing and Functions
- Learn about serverless computing and functions-as-a-service (FaaS), including AWS
 Lambda, Azure Functions, and Google Cloud Functions.
- · 2:00 PM 2:15 PM: Recap and Q&A
- · Clarify any questions about advanced cloud services.
- · 2:15 PM 3:15 PM: Automation and Cloud Management
- Introduction to cloud automation and tools for managing and orchestrating cloud resources (Terraform, CloudFormation).
- · 3:15 PM 3:30 PM: Break
- 3:30 PM 5:00 PM: Hands-on: Deploying Serverless Applications
- Practical session on deploying and managing serverless applications on cloud platforms.

