

Cloud Fundamentals

Course Overview

This five-session course introduces you to Cloud Computing, a growing and rapidly changing field that is becoming increasingly vital to business survival, job stability, and national security. Each session is approximately two hours of instructional content.

Course Approach

The content is laid out in a workshop format structured to provide a holistic learning experience leading to proficiency. This is not a self-paced course. This course also contains case study material based on real-life scenarios but does not reference any particular company or situation.

Content Types

There are three content types in this course:

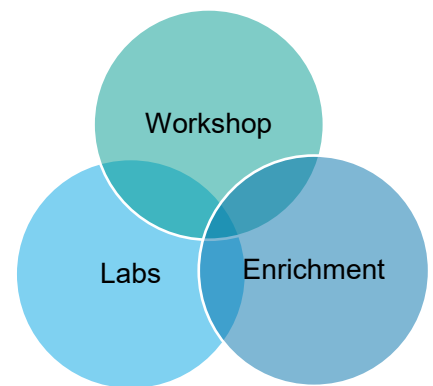
Workshop: Main course content, typically in a slide deck or recorded, lecture-style format.

Enrichment: Additional content provided for the learning experience in the course. These are items that, while not required, may provide a bigger picture or more context around content presented in the course. These are content elements including (but not limited to) learning aids, journal articles, podcasts, whitepapers, webinars or links from other trusted sources.

Labs: This course has a performance-based lab component that is highly recommended for learners to complete. Completion of the labs is in addition to the instructor led course and will reinforce the learning in a hands-on, skill building approach.

Each Certificate Exam assesses and affirms both knowledge and the ability to perform IT-related tasks that the real-world workplace demands. The exams include multiple choice questions and specific skills that are assessed in a virtual lab environment.

Access to the labs is available through the ISACA PERFORM learning experience platform.



Session 1 – Cloud Computing Concepts

Learning Objectives:

- Define cloud technology
- Articulate the characteristics and benefits of cloud computing
- Identify the:
 - Components of a cloud solution
 - Benefits of virtualization
 - Reasons why virtualization is implemented
- Describe the risks associated with virtualization
- Explain the considerations for cloud service implementation
- Describe the considerations for migrating data to the cloud

Session Topics:

- 1.2 Overview
- 1.3 Components of the Cloud
- 1.4 Cloud Service Implementation Considerations

Enrichment

- Continuous Oversight in the Cloud, ISACA White Paper
(https://www.isaca.org/bookstore/bookstore-wht_papers-digital/whpcoc)

Session 2 – Cloud Computing Models

Learning Objectives:

- Distinguish between cloud deployment models
- Identify the considerations for choosing cloud deployment and service models
- Distinguish between the SaaS, PaaS, and IaaS models
- Describe the benefits of using cloud services
- Identify niche cloud services
- Explain solution stacks
- List the layers of a cloud stack
- Describe the decisions to implement solution stacks

Session Topics:

- 1.5 Cloud Deployment Models
- 2.2 Overview
- 2.3 Software as a Service (SaaS)
- 2.4 Platform as a Service (PaaS).
- 2.5 Infrastructure as a Service (IaaS)
- 2.6 Solution Stacks

Enrichment

- Best Practices to Manage Risks in the Cloud, ISACA NOW Blog (https://downloads.cloudsecurityalliance.org/assets/research/security-guidance/security-guidance-v4-FINAL.pdf?_ga=2.186722026.35477603.1619125303-424346560.1618882242)

Session 3 – Cloud Governance

Learning Objectives:

- Describe the need for cloud governance
- Identify the requirements for cloud governance
- Explain how cloud solutions meet business drivers of organizations
- Identify the strategic value of cloud computing for an organization
- Identify the risks associated with cloud solutions
- Describe the measures to manage risks to cloud solutions
- Identify the focus areas of Service Organization Control (SOC) 3 reports and Cloud access security brokers (CASBs)

Session Topics:

- 3.2 Overview
- 3.3 Business Drivers to Cloud Solutions
- 3.4 Risk Associated With Cloud Solutions

Enrichment

- Cloud Computing: Business Benefits and Security, Governance and Assurance Perspectives, ISACA White Paper (https://www.isaca.org/bookstore/bookstore-wht_papers-digital/whpccbbf)
- Managing Cloud Risk: Top Considerations for Business Leaders, ISACA Journal (<https://www.isaca.org/resources/isaca-journal/issues/2016/volume-4/managing-cloud-risk-top-considerations-for-business-leaders>)
- SOC Reports for Cloud Security and Privacy, ISACA Journal (<https://www.isaca.org/resources/isaca-journal/issues/2019/volume-6/soc-reports-for-cloud-security-and-privacy>)
- Cloud Access Security Brokers, ISACA White Paper (https://www.isaca.org/bookstore/bookstore-wht_papers-digital/whpcas)

Session 4 – Vendor Selection and Management

Learning Objectives:

- Describe the need and considerations for carefully selecting cloud vendors
- Identify the target outcomes and roles of cloud vendor management
- Describe the desired measures for a cloud service provider (CSP)'s performance

- Describe the activities in service level monitoring, Identity and Access Management (IAM), and vulnerability management
- Identify the need for the portability of cloud services
- Explain the challenges associated with porting cloud services

Session Topics:

- 3.5 Cloud Vendor Selection and Management
- 3.6 Portability of Services

Enrichment

- Continuous Oversight in the Cloud, ISACA White Paper (https://www.isaca.org/bookstore/bookstore-wht_papers-digital/whpcoc)
- Vendor Risk Management Demystified, ISACA Journal (<https://www.isaca.org/resources/isaca-journal/issues/2015/volume-4/vendor-risk-management-demystified>)

Session 5 – Cloud Service Supports

Learning Objectives:

- Identify the principles for validating cloud solutions
- Identify the possible impact of a misconfiguration of a cloud solution
- Explain the importance of the efficient management of cloud resources
- State the policies for managing cloud resources
- Describe the targets for load balancing on the cloud
- Explain the expectations for maintaining the availability of cloud storage and data
- Describe the considerations for preparing Business Continuity Plans (BCPs) and Disaster Recovery Plans (DRPs)

Session Topics:

- 4.2 Overview
- 4.3 Testing and Validation
- 4.4 Configuration Accessibility
- 4.5 Management of Resources
- 4.6 Storage and Data Availability
- 4.7 Business Continuity and Disaster Recovery

Enrichment

- Cloud Computing: Are Your Data Secure in the Cloud, ISACA Journal (<https://www.wired.com/video/watch/data-security-vs-privacy-can-you-have-both>)

Practice Labs

- Testing and Validation
- SaaS
- Components of the Cloud