



Cloud Computing Course - Introduction

The main topics you will study on the Cloud Computing Foundation course are:

- The principles of cloud computing, this includes the concept, evolution and architectures, drivers and limitations
- Implementing and managing cloud computing including the building of a local cloud environment
- The principles of managing cloud services
- Using the cloud, including user access, business processes and service provider use
- Security and compliance, including the risks and mitigating measures
- Managing identity and privacy in the cloud, including GDPR legislation
- The business case for cloud computing and the evaluation of implementations

The course also contains current articles, case studies and examples to bring your eLearning experience to life with quick fire quizzes to test and recap your knowledge of learning outcomes.

MODULE 1: The Principles of Cloud Computing

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LESSON 1:

The Concept of Cloud Computing – Characteristics



LESSON 2:

Deployment Models for Cloud Computing – Public, private, hybrid, community



LESSON 3:

Service Models for Cloud Computing – SaaS, PaaS, IaaS

LESSON 4:

The Evolution of Cloud Computing
Part 1 – role of networks and servers and the internet



LESSON 5:

The Evolution of Cloud Computing
Part 2 – the role of virtualization



LESSON 6:

The Evolution of Cloud Computing
Part 3 – managed services role and benefits and limitations of the cloud

LESSON 7:

Cloud Computing Architectures
Part 1 – Single purpose and multi-purpose architecture, multi-tenancy architecture



LESSON 8:

Cloud Computing Architectures
Part 2 – Service oriented architecture

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MODULE 2: Implementing and Managing Cloud Computing

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LESSON 1:

The building of Local Cloud Environment Part 1 – Hardware and software components of a local cloud environment, managing cloud services



LESSON 2:

The building of Local Cloud Environment Part 2 – Risks of connecting a local cloud network to the public Internet



LESSON 3:

The principles of Managing Cloud Services – Outsourcing to the cloud, IT service management principles (ISO/IEC 20000) in a cloud, managing service levels

MODULE 3: Using the Cloud

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LESSON 1:

Accessing the Cloud Part 1 – Accessing web applications through a web browser, cloud web access architecture



LESSON 2:

Accessing the Cloud Part 2 – Use of a thin client, the use of mobile devices in accessing the cloud



LESSON 3:

How Cloud Computing Can Support Business Processes – Impact of cloud computing on the primary processes of an organization, the role of standard applications in collaboration

SaaS Business Solutions

Customer Relationship Management (CRM)	Email (professional)
	Webmail
Enterprise Resource Planning (ERP)	Office suites
HR solutions	E-Business
IT service management	Online storage
Finance & accounting	Collaboration
Web design and management	Video conferencing

These are the standard application categories that have a role in collaboration:

- Social media for personal and business use: eg, LinkedIn, Facebook, Twitter
- Email/webmail: Google Gmail, Yahoo Mail
- Videoconferencing: Skype, Zoom
- File sharing: Dropbox

Sales and CRM: Salesforce



LESSON 4:

How Service Providers can use the Cloud – How using cloud computing changes the relationship between provider and customer, the benefits and risks of providing cloud based services

MODULE 4: Security and Compliance

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"In 2016 the CSA updated their cloud security concerns from 9 to 12, now calling them 'The Treacherous 12 - Cloud Computing Top Threats in 2016'"

LESSON 1:

The Security Risks of Cloud Computing – The security risks in the cloud, measures mitigating security risks

Data breaches	Abuse of cloud services
Data loss	Insufficient due diligence
Account or service traffic hijacking	Shared technology vulnerabilities
Insecure interfaces and API	Insufficient identity, credential and access management
Denial-of-service	System Vulnerabilities
Malicious insiders	Advanced persistent threats

LESSON 2:

Managing Identity and Privacy in The Cloud Part 1 – Main aspects of identity management (authentication) – Triple A authentication

LESSON 3:

Managing Identity and Privacy in The Cloud Part 2 – Main aspects of identity management (solutions)

LESSON 4:

Managing Identity and Privacy in The Cloud Part 3 – Privacy and compliance issues and safeguards in cloud computing

This compliance legislation and regulation relates to the use of PII in the EU:

- Laws and privacy standards of the member countries
- EU Internet Privacy Law (DIRECTIVE 2002/58/EC, 2002) update entitled: Privacy Regulation (ePR) proposed to take effect in 2019
- General Data Protection Regulation (GDPR) (2016)

MODULE 5: The Evaluation of Cloud Computing

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LESSON 1:

The Business Case for Cloud Computing – Costs and possible savings of cloud computing, the main operational and staffing benefits of cloud computing

Business Case

- Flexibility/Time-to-market (TTM)
- Costs
- Service Level Agreements (SLA)
- Architecture
- Green Computing

LESSON 2:

The Evaluation of Cloud Computing Implementations – Evaluation of performance factors, management requirements and satisfaction factors, the evaluation of service providers and their services in cloud computing

Some examples of operational benefits are:

- Managed services
- Self-service (unmanaged services)
- Instant server deployment
- software licensing without impact on CAPEX
- Uptimes are guaranteed
- Backups as a service (always off-site)

MODULE 6: Course Recap and Exam Preparation

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