Preparation Guide

Edition 202504

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1. Overview

EXIN Cloud Computing Foundation (CLOUDF.EN)

Scope

The EXIN Cloud Computing Foundation certification confirms that the professional understands the basics of cloud architectures, business benefits, security aspects and service agreements.

This certification includes the following topics:

- Cloud principles
- Implementing and managing cloud
- Using the cloud
- Cloud security, identity and privacy
- Evaluation of cloud computing

Summary

Cloud computing means implementing and using cloud technology to provide IT-related services hosted off-premises. Usually cloud services are distributed over the internet. Cloud supports businesses by offering flexible IT solutions based on clear service level agreements (SLAs).

The EXIN Cloud Computing Foundation certification requires insight in the basics of cloud technology, the relation between cloud and other areas of information management, and how cloud computing is incorporated in the business. This insight is based on knowledge of the fundamental concepts behind cloud, which includes understanding cloud architecture, design, and deployment.

Context

The EXIN Cloud Computing Foundation certification is part of the EXIN Cloud Computing qualification program.

Target group

This certification is tailored to professionals involved in business operations in any domain, who are working with or interested in cloud and what cloud can bring to the business.

This includes:

- anyone working for internal or external service providers
- their customers
- managers
- auditors

Requirements for certification

- Successful completion of the EXIN Cloud Computing Foundation exam.

Examination details

Examination type:	Multiple-choice questions
Number of questions:	40
Pass mark:	65% (26/40 questions)
Open book:	No
Notes:	No
Electronic equipment/aides permitted:	No
Exam duration:	60 minutes

The Rules and Regulations for EXIN's examinations apply to this exam.

Bloom level

The EXIN Cloud Computing Foundation certification tests candidates at Bloom levels 1 and 2 according to Bloom's revised taxonomy:

- Bloom level 1: Remembering – relies on recall of information. Candidates will need to absorb, remember, recognize and recall.
- Bloom level 2: Understanding – a step beyond remembering. Understanding shows that candidates comprehend what is presented and can evaluate how the learning material may be applied in their own environment. This type of questions aims to demonstrate that the candidate is able to organize, compare, interpret and choose the correct description of facts and ideas.

Training

Contact hours

The recommended number of contact hours for this training course is 14. This includes group assignments, exam preparation and short breaks. This number of hours does not include lunch breaks, homework and the exam.

Indication study effort

56 hours (2 ECTS), depending on existing knowledge.

Training organization

You can find a list of our Accredited Training Organizations at www.exin.com.

2. Exam requirements

The exam requirements are specified in the exam specifications. The following table lists the topics of the module (exam requirements) and the subtopics (exam specifications).

Exam requirements	Exam specifications	Weight
1. Cloud principles		**32.5%**
	1.1 Concept of cloud	7.5%
	1.2 Evolution towards cloud computing	10%
	1.3 Cloud architecture	7.5%
	1.4 Benefits and limitations of cloud	7.5%
2. Implementing and managing cloud		**20%**
	2.1 Building local cloud environments	10%
	2.2 Principles of managing cloud services	10%
3. Using the cloud		**17.5%**
	3.1 Accessing the cloud	10%
	3.2 Supporting business processes with cloud computing	2.5%
	3.3 Service providers using the cloud	5%
4. Cloud security, identity and privacy		**17.5%**
	4.1 Cloud security	7.5%
	4.2 Identity and privacy management	10%
5. Evaluation of cloud computing		**12.5%**
	5.1 Business case for cloud	7.5%
	5.2 Evaluation of cloud implementations	5%
	Total	**100%**

Exam specifications

1 Cloud principles

1.1 Concept of cloud

The candidate can…

1.1.1 explain what cloud computing is.

1.1.2 compare the main cloud deployment models (private, public, community, and hybrid cloud).

1.1.3 compare the main cloud service models (PaaS, IaaS, and SaaS).

1.2 Evolution towards cloud computing

The candidate can…

1.2.1 describe the main concepts from which cloud computing developed.

1.2.2 explain the role of network and servers in cloud computing.

1.2.3 describe the role of the internet in cloud computing.

1.2.4 explain the role of virtualization in cloud computing.

1.2.5 describe the role of managed services in cloud computing.

1.3 Cloud architecture

The candidate can…

1.3.1 explain the difference between single purpose and multipurpose architectures.

1.3.2 describe a service-oriented architecture (SOA).

1.4 Benefits and limitations of cloud

The candidate can…

1.4.1 identify the main benefits of cloud.

1.4.2 identify the main limitations of cloud.

2 Implementing and managing cloud

2.1 Building local cloud environments

The candidate can…

2.1.1 describe the main components of a local cloud environment and how they are interconnected.

2.1.2 describe the use of secured access to a LAN.

2.1.3 describe the risks of connecting a local cloud network to the public internet.

2.2 Principles of managing cloud services

The candidate can…

2.2.1 describe the use of IT service management principles (ISO/IEC 20000) in a cloud environment.

2.2.2 explain the management of service levels in a cloud environment.

3 Using the cloud

3.1 Accessing the cloud

The candidate can…

3.1.1 describe how to access web applications through a web browser.

3.1.2 describe the cloud web access architecture.

3.1.3 describe the use of a thin client.

3.1.4 describe the use of mobile devices in accessing the cloud.

3.2 Supporting business processes with cloud computing

The candidate can…

3.2.1 identify the impact of cloud computing on the primary processes of the business.

3.2.2 describe the role of standard applications in collaboration.

3.3 Service providers using the cloud

The candidate can…

3.3.1 explain how using cloud changes the relation between vendors and customers.

3.3.2 identify benefits and risks of providing cloud-based services.

4 Cloud security, identity and privacy

4.1 Cloud security

The candidate can…

4.1.1 recognize cloud security risks.

4.1.2 describe measures mitigating cloud security risks.

4.2 Identity and privacy management

The candidate can…

4.2.1 describe the main aspects of identity management.

4.2.2 describe privacy and compliance issues and safeguards in cloud.

5 Evaluation of cloud computing

5.1 Business case for cloud

The candidate can…

5.1.1 describe the costs of cloud from a TCO (total costs of ownership) perspective.

5.1.2 describe the costs of cloud from an RoI (return on investment) perspective.

5.2 Evaluation of cloud implementations

The candidate can…

5.2.1 describe the evaluation of performance factors, management requirements and satisfaction factors.

5.2.2 describe the evaluation of service providers and their services in cloud technology.

3. List of basic concepts

This chapter contains the terms and abbreviations with which candidates should be familiar.

Please note that knowledge of these terms alone does not suffice for the exam. The candidate must understand the concepts and be able to provide examples.

AAA / Triple A (authentication, authorization, accounting)
application
application hosting
audit
availability
back-up
back-up service
bandwidth
blog
bps (bits per second)
Bps (Bytes per second)
business logic

capital expenditure (CAPEX)
cell phone
CIFS (common internet file system)
claim-based solution
client
client-server
cloud access architecture
cloud presence
cloud technology
common carrier
compliance
confidentiality
cost
CRM tool (customer relation management tool)
customer
datacenter
database
datacenter architecture
denial-of-service attack (DoS)
deployability
digital identity
distributed denial-of-service attack (DDoS)
distributed management taskforce (DMTF)
Dropbox
e-commerce
economic benefit
e-mail
encrypted federation
extranet
failover
federation
frame relay network
GDPR (General Data Protection Regulation)
green IT

guest operating system
hardware
HTML (hypertext markup language)
hybrid cloud
hypervisor
IaaS (Infrastructure as a Service)
identity
identity management
IM (instant messaging)
IMPS (instant messaging and presence service)
Institute for Electrical and Electronics Engineers (IEEE)
integrity
Internet protocol security (IPSec)
interoperability
intranet
ISO (International Standards Organization)
IT infrastructure
IT service
JavaScript
JSON (JavaScript Object Notation)
LAN (local area network)
latency
location independent
loosely coupled (architecture)
mainframe
man-in-the-middle attack
memory
messaging protocol
microcomputer
middleware
migration
minicomputer
MMS (multimedia message service)
mobile device
mobility
multiprocessing
multi-programming
multiprotocol label switching (MPLS)
multi-purpose architecture
multi-sided platform (MSP)
multi-user
National Security Agency (NSA)
network
network attached storage (NAS)

network infrastructure
network protocol
online games
Open Cloud Consortium (OCC)
open systems interconnection (OSI)
open virtualization format (OVF)

open-ID
operating system
operational benefit
operational expenditure (OPEX)

PaaS (Platform as a Service)
pay-as-you-go model

performance factors
permissive federation
personal identifiable information (PII)
portability
Pretty Good Privacy (PGP)
privacy
privacy notice
private cloud
processing
protocol analyzer
public cloud
recovery
redundancy
remote data center
replication
risk
RoI (return on investment)
SaaS (Software as a Service)
satisfaction factors
scalability
scripting language
security
server
service level
service level agreement (SLA)
service-oriented architecture (SOA)
single sign-on (SSO)
slide share
smartphone

SMS (short message service)
social media
software
staffing benefit
stakeholder
storage
storage management initiative-specification (SMI-S)
subcontracted supplier
supplier contract
support
system management architecture for system hardware (SMASH)
TCO (total costs of ownership)
TCP/IP (transmission control protocol / Internet protocol)
thin client
throughput
tiered architecture
time-to-market
time-to-value
traceability
track
user
utility
verified federation
video telecommunication
virtual machine (VM)
virtualization
virtualization management initiative (VMAN)
virtualized environment
virus (infection)
VoIP (voice-over-Internet protocol)
VPN (virtual private network)
web browser
web frontend
web service management (WS-MAN)
web-based enterprise management (WBEM)
webmail
website
Wiki
Wikispace
workload
XML (extensible markup language)
XMPP (extensible messaging and presence protocol)

4. Literature

Exam literature

The knowledge required for the exam is covered in the following literature:

A. Hans van den Bent and Alexander Vladimirovich Esis
EXIN Cloud Computing Foundation Workbook
Go to www.exin.com. Click on 'Professionals' and then on 'Certifications' to find the certification. The free download can be found under 'Required reading'.

Literature matrix

Exam requirements	Exam specifications	Reference
1. Cloud principles		
	1.1 Concept of cloud	A, Chapter 1
	1.2 Evolution towards cloud computing	A, Chapter 1
	1.3 Cloud architecture	A, Chapter 1
	1.4 Benefits and limitations of cloud	A, Chapter 1
2. Implementing and managing cloud		
	2.1 Building local cloud environments	A, Chapter 2
	2.2 Principles of managing cloud services	A, Chapter 2
3. Using the cloud		
	3.1 Accessing the cloud	A, Chapter 3
	3.2 Supporting business processes with cloud computing	A, Chapter 3
	3.3 Service providers using the cloud	A, Chapter 3
4. Cloud security, identity and privacy		
	4.1 Cloud security	A, Chapter 4
	4.2 Identity and privacy management	A, Chapter 4
5. Evaluation of cloud computing		
	5.1 Business case for cloud	A, Chapter 5
	5.2 Evaluation of cloud implementations	A, Chapter 5

Contact EXIN

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