

# Certified Cloud Computing Professional (CCCP)

# **Course Outline**

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#### **DURATION**

4 Days

# **COURSE OBJECTIVES**

Certified Cloud Computing Professional program is the third level in this pathway (after Associate and Specialist levels) – is a 4-day intensive training program with hands-on and project work component (PWC) that participants will carry out at the end of the training. This program is specially designed to address the growing need for people having skills, expertise and competence in deploying and managing applications in computing clouds. It will impart participants various technical, management and governance skills needed to successfully identify, deploy and manage various types of applications in clouds, and to develop and implement enterprise cloud strategy. It will also enable them harness the potential of the clouds creating value and minimizing the risks and meeting compliance and regulatory requirements.

The program will provide participants essential skills to examine cloud computing options, the ability to apply cloud computing in different application contexts, and the ability to recommend suitability of, as well as implications of, cloud computing for a given application considering several technical and non-technical aspects, including security, privacy, compliance and business continuity.

Participants will undergo intensive training program which will consist of lectures/presentations augmented with hands-on, case studies, tutorials and interactive discussion plus project work component (PWC) that participants will undertake after the 4-day training and submit their project work for assessment. Participants will also receive comprehensive course materials and resources for further information. Thus, the participants will learn by different means and sources: lecture/presentations, project work, tutorial discussions, Q&A sessions, comprehensive lecture notes, and helpful additional resources.



#### JOB ROLES IN NICF / TARGETED AUDIENCE

- Cloud Infrastructure Engineer
- Cloud Operations Engineer
- Cloud Operations Manager
- Information / Database Architect Cloud
- Infrastructure Architect Cloud
- IHL Students

#### **PRE-REQUISITES**

Participants are recommended to have prior knowledge and understanding of Cloud Computing

#### **PROGRAM STRUCTURE**

Certified Cloud Computing Professional is a 4-day intensive training program with the following assessment components.

Component 1. Written Examination

Component 2. Project Work Component (PWC)

These components are individual based. Participants will need to obtain 70% in both the components in order to qualify for this certification. If the participant fails one of the components, they will not pass the course and have to re-take that particular failed component. If they fail both components, they will have to re-take the assessment.



# **COURSE OUTLINE**

- Unit 1: Cloud Computing Introduction, Deployment & Delivery Models
- Unit 2: Cloud Computing Building Blocks, Virtualization
- Unit 3: Cloud Scalability, Monitoring & Management, Pricing of Cloud Services
- Unit 4: Other Forms of Virtualization
- Unit 5: Building a Private Cloud
- Unit 6: Cloud Computing Coding in Cloud
- Unit 7: Cloud Computing Security, Privacy, and Risk
- Unit 8: DevOps
- Unit 9: Docker and Kubernetes

Unit 10: Fog and Edge Computing

# **COURSE SESSION SCHEDULE**

	Session 1	Session 2	Session 3	Session 4
Day 1	(9:00 – 10:30)	(10:40 – 12:00)	(13:00 – 16:00)	(16:00 – 18:30)
	Cloud Computing Introduction, Deployment & Delivery Models	Cloud Computing Introduction, Deployment & Delivery Models	Cloud Computing: Building Blocks and Virtualization	Cloud Computing: Building Blocks and Virtualization
Day 2	Session 1 (9:00 – 10:30)	Session 2 (10:40 – 12:00)	Session 3 (13:00 – 16:00)	Session 4 (16:00 – 18:30)
	Cloud Scalability, Monitoring & Management, Pricing of Cloud Services	Other Forms of Virtualization	Building a Private Cloud	Building a Private Cloud
Day 3	Session 1 (9:00 – 10:30)	Session 2 (10:40 – 12:00)	Session 3 (13:00 – 16:00)	Session 4 (16:00 – 18:30)
	Cloud Computing Coding in Cloud	Cloud Computing Security, Privacy, and Risk	DevOps	DevOps
	Session 1	Session 2	Session 3	Session 4
Day 4	(9:00 – 10:30)	(10:40 – 12:00)	(13:00 – 16:00)	(16:00 – 18:30)
	Docker and Kubernetes	Docker and Kubernetes	Fog and Edge Computing	CCCP examination

# HANDS-ON

Participants will have guided hands-on session which will also include case studies, discussion on recent cloud developments and failures, and debates on cloud issues. The program consists of four sessions of hands-on, each three hours duration.

Hands-on 1: Virtualization using Ubuntu Hands-on 2: Build a private cloud (Open Nebula) Hands-on 3: Containerization using Docker Hands on 4: Performance monitoring using Jenkins

#### WRITTEN EXAMINATION

As part of the written examination, each participant will be assessed individually on the last day of the training for their understanding of the subject matter and ability to evaluate, choose and apply them in specific context and also the ability to identify and manage risks. The assessment focuses on higher levels of learning in Bloom's taxonomy: Application, Analysis, Synthesis and Evaluation.

This written examination will primarily consist of 40 multiple choice questions spanning various aspects as covered in the program. It is an individual, competency-based assessment.

#### **COURSE OUTCOME**

- Acquire knowledge on the key elements and application of cloud computing
- Obtain knowledge on how DevOps works and its impact on cloud computing
- Acquire skills to design and implement Microservices systems using Docker
- Gain knowledge on continuous performance monitoring using Jenkins
- Be comprehensively familiar with privacy and Security as a service (SECaaS)



# **EXAM PREPARATION**

The objective of the certification examination is to evaluate the knowledge and skills acquired by the participants during the course. The weightage in key topics of the course as follows:

- Cloud Computing Introduction, Deployment & Delivery Models [20%]
- Cloud Computing Building Blocks and Virtualization [20%]
- Cloud Scalability, Monitoring & Management, Pricing of Cloud Services [10%]
- Cloud Computing: Security, Privacy and Risks [10%]
- DevOps [10%]
- Docker and Kubernetes [20%]
- Fog and Edge Computing [10%]

# Software used:

- Ubuntu
- Oracle Virtual Box
- Docker
- Jenkins

