CU - Certified Cloud Tester - Foundation Level (CU-CCT-FL)

**Course Description:** The cloud has changed the way applications are hosted and tested. The CU Certified Cloud Testing - Foundation Level certification course focuses on the essential cloud characteristics and cloud specific tests that a tester needs to know.

The certification itself is independent of any specific cloud provider; however, hands-on exercises will be performed on several of the most widely known providers. Earners of the Certified Cloud Tester - Foundation Level certification will be able to perform various types of cloud specific tests and understand the differences between testing the cloud and testing apps in the cloud. The course does not teach basics of general testing as it is expected that the examinee has that knowledge. For the basics of testing we recommend that participants hold the ISTQB Certified Tester Foundation Level certificate (or similar) or have at least read through the syllabus and understand the content.

**Target Audience –**

Testers, Test Leads and Managers, QEs and basically anyone who tests or manages the testing of systems that involve the cloud.

**Business Outcomes (BOs) of this Course**

• BO-1 - Understand the cloud characteristics to support the creation of a test strategy from the perspective of the applications.

• BO-2 - Create cloud instances of various OS and configurations as a prerequisite to setting up the required test environments.

• BO-3 - Create docker images and successfully run them. This included the ability to set up clusters using docker swarm and Kubernetes.

• BO-4 - Setup load balancing and autoscaling for testing reliability, scalability, resilience etc.

• BO-5 - Support the testing team in performing disaster recovery testing.

• BO-6 - Perform A/B testing, dark launch testing, toggles testing, Blue/Green deployment as well as other useful cloud computing test techniques.

**Course Content**

**DAY-1 Introduction**

• Introduction to the course.

• Introduction to cloud computing.

 • Business case and usage for cloud computing.

• Advantages and disadvantages.

• Players in the cloud space. Cloud Technology and Terminology

• Virtualization as the backbone for cloud.

• Container technology.

• Containers v/s virtualization.

• Public v/s Private and other models

• …as a Service.

• SaaS, PaaS, IaaS.

• Clustering.

• Load balancing.

• Costs of cloud infrastructure. Walk in the Clouds (demo)

• A commercial cloud hosting service setup (AWS).

• Choosing OS, resources, instance type etc.

• Installation of applications.

• Checking usage and costing.

• Common settings. Docker

• Docker introduction.

• Hands-on with dockers - creating and publishing images.

 • Docker and AWS.

**DAY-2 Challenges Specific to Cloud Computing**

• Data location.

• Application Sharing.

• Multi-tenancy.

• Data ownership, interoperability and portability.

• Security.

• Compliance.

• Disaster recovery.

• Expertise availability.

• Running cost blindness.

• Bandwidth requirement. Difference Between Cloud Testing and Conventional Testing

• Testing in the cloud v/s testing the cloud.

• Test environment.

• Test data.

• Build deployment.

• Performance issues. Testing in the Cloud

• Setting up the test environment - software and hardware.

• Access rights.

• Functional tests.

• Tests related to backend servers.

• Non-functional tests.

• Reliability.

• Performance.

• Interoperability.

• Security.

• Scalability.

• Stress tests.

• Issues of performance testing.

• Tools for cloud testing.

• Testing migration to cloud.

• Cloud and automation.