Course Name	**IBM CE - Introduction to Cloud Computing**
Course Code	AIMCCFIN
Course Duration	25 Hours

About Technology

Cloud computing changes the way we think about technology. Cloud is a computing model providing web-based software, middleware and computing resources on demand.

By deploying technology as a service, you give users access only to the resources they need for a particular task. This prevents you from paying for idle computing resources. Cloud computing can also go beyond cost savings by allowing your users to access the latest software and infrastructure offerings to foster business innovation. Cloud computing helps enterprises transform business and technology.

IBM has come up with great and easy ways to understand cloud computing and make it functional as well. Cloud computing can also go beyond cost savings by allowing your users to access the latest software and infrastructure offerings to foster business innovation. Think about what that simple statement means. Yes, saving money is good – even important – but even more important is how the end user uses software and infrastructure. Do you know what that really means?

From the infrastructure side of things, you should be able to offer something that has enough servers, storage and other essential components to get the task at hand done. In this case, the task is setting up a cloud computing structure.

Cloud computing is based on several basic ideas. Infrastructure as a service, IaaS, is the basic cloud. Cloud computing starts (or ends) here. IaaS is all about on-demand services for virtual machines, firewalls and networks. PaaS, or platform as a service, is a little deeper, however. This is for solutions; you develop a program on the cloud for you and your employees to use. The service is that someone else is hosting your software for you. SaaS, or software as a service, is where the software that you are using is hosted and run on a virtual machine – there will never be a need for an updated computer after that point.

So, how does cloud computing, or what IBM is offering, mean? You have to determine what services you need. If you're looking to run management programs, content management or anything along those lines, you're going to want to use an SaaS system. If you're just looking to hold onto some photos or MP3s, an SaaS service would not be something you need.

About Course

This instructor-led course is designed to teach students the basic concepts and terminology of cloud computing.

After establishing the definition of cloud computing, this course describes the various service delivery models of a cloud computing architecture, and the ways in which clouds can be deployed as public, private, hybrid, and community clouds. Students also learn about the security challenges that cloud deployments experience, and how these are addressed. The course also describes IBM cloud computing architecture and offerings, the IBM WebSphere CloudBurst appliance, and the IBM WebSphere Hypervisor edition software product.

A number of self-running and hands-on demonstrations in simulation mode enable students to experience how to sign onto and use cloud-based instances. The hands-on demonstrations include applying for a contract to use the IBM

Smart Business Development and Test Cloud. Students sign onto the IBM Smart Business Development and Test Cloud, create an instance of the cloud, and connect to it. Other self-running demonstrations focus on getting started with cloud computing using the IBM WebSphere CloudBurst appliance. In the final exercise, students complete a crossword puzzle on what they have learned.

Target Audience

This introductory course is designed for software architects and developers of cloud systems, as well as application and enterprise software engineers. It is also appropriate for business professionals who would like to gain a comprehensive understanding of cloud computing.

Students of:
- CS/IT ECE/EEE Engineering – 3rd/ 4th Year
- MCA – 2nd Year
- BCA/ BSC – 2nd / 3rd year

Pre-requisites

Before taking this course, students should be familiar with enterprise application architecture, distributed computing paradigms, and browser-based access.

Contents

This course covers the following topics:

After completing this course, you should be able to:

- o Define cloud computing

- o Identify the key characteristics of cloud computing

- o List the benefits of using clouds

- o Describe some of the challenges to adopting a cloud architecture

- o Describe key cloud computing concepts and terminology

- o Describe the service delivery models in cloud computing:

    - Identify the software as a service (SaaS) delivery model

    - Identify the platform as a service (PaaS) delivery model

    - Identify the infrastructure as a service (IaaS) delivery model

- o List the various cloud deployment scenarios:

    - Describe the features of private, public, hybrid, and community clouds

    - List some additional cloud deployment types

    - Select the most appropriate deployment model based on a set of business and technical requirements

- o Review the integration of security into the cloud reference model

- o Describe security considerations in cloud computing

- o Identify security options available in cloud computing

- o Identify the top security threats to cloud computing

- o Describe the architecture of IBM cloud computing and IBM cloud computing

offerings:

- o   Position the various vendors in the service delivery model of cloud computing
  - o   Illustrate an IBM example cloud architectural configuration
  - o   Describe some of the IBM cloud offerings

Applicable Certification	- NA -
Follow on courses	- IBM CE - Enterprise Applications for Cloud Environment using IBM Rational Application Developer & IBM SmartCloud