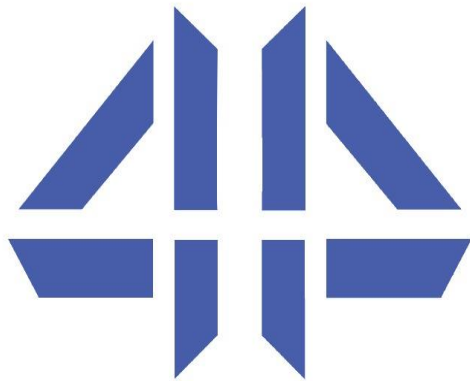


4P Advisory Services

V1.0

Training Program on

Cloud Essentials & Virtualization  
Basics (Including VMware/AWS/Azure)



**4P Advisory Services**

[www.4pa.in](http://www.4pa.in)

## What are Cloud & Virtualization?

**Cloud and virtualization** are two related concepts that are essential in modern computing. **Cloud computing** is a model for delivering on-demand computing services over the internet, including servers, storage, databases, networking, software, and analytics. These services are provided by cloud service providers **such as Amazon Web Services (AWS), Microsoft Azure, and Google Cloud Platform (GCP)**, who own and manage the infrastructure required to run the services.

**Virtualization**, on the other hand, is the process of creating a virtual version of something, such as a server, storage device, network or operating system. In the context of computing, virtualization enables multiple operating systems or applications to run on a single physical machine or server, thereby maximizing hardware resources and increasing efficiency. It is a technology that allows for the creation of a simulated environment in which software applications can run as if they were running on physical hardware.

## Why Cloud Essentials & Virtualization?

- **Cost savings:** Cloud computing and virtualization reduce the need for physical hardware, which can be expensive to purchase, maintain, and upgrade. Cloud computing also allows organizations to pay only for the resources they use, making it more cost-effective.
- **Scalability:** Cloud computing and virtualization allow organizations to easily scale their resources up or down as needed. This allows them to quickly adapt to changing business needs without having to make significant investments in hardware.
- **Flexibility:** With cloud computing and virtualization, organizations can access their applications and data from anywhere, at any time. This allows for greater flexibility in terms of where and when work is performed.
- **Improved security:** Cloud computing and virtualization can improve an organization's security posture by providing built-in security features and centralized management of security policies.
- **Disaster recovery:** Cloud computing and virtualization can help organizations improve their disaster recovery capabilities by providing redundancy and failover options for critical applications and data.

## Why learn about Cloud Essentials & Virtualization?

- **Industry demand:** Cloud computing and virtualization are widely used in many industries. Understanding the basics of cloud and virtualization can make an intern or new joiner more valuable in the job market.
- **Efficiency:** Cloud computing and virtualization can greatly improve efficiency in an organization. Interns and new joiners who understand these concepts can contribute to the organization's efforts to optimize its infrastructure and reduce costs.
- **Collaboration:** Cloud computing and virtualization allow for easier collaboration between teams and individuals. Interns and new joiners who are familiar with these concepts can more easily integrate into a team's workflow and contribute to collaborative efforts.
- **Innovation:** Cloud computing and virtualization have enabled many new technologies and innovations, such as artificial intelligence and the Internet of Things. Interns and new joiners who understand these concepts can contribute to the development and implementation of new technologies and processes within an organization.

### Audience:

The audience for this training program would typically be individuals who are interested in or working in information technology. This may include IT professionals, system administrators, network engineers, or software developers. **It is also for the students and professionals who are likely to join large organizations in entry-level positions.**

### Learning Objectives:

- **Understanding Cloud Computing:** Understand the benefits, challenges, and various service models of cloud services.
- **Understanding Hypervisors and Virtual Machines:** Learn how to create and manage virtual machines using tools such as VMware Workstation.
- **Understanding AWS and Microsoft Azure:** Understand the key services offered by AWS and Microsoft Azure and how to access and configure them.
- **Hands-on Practical Activities:** Perform hands-on practical activities using AWS OR Microsoft Azure cloud platforms, including creating and managing virtual machines, configuring storage and networking components, and configuring access controls and security measures.

**Candidate Prerequisites**

- Basic computer skills: Candidates should have a basic understanding of computer operations, such as using a mouse, keyboard, and operating system.
- Basic understanding of networking, firewalls, operating system, network, security and storage.
- Basic understanding of Internet and related services

**Lab requirements for the classroom:**

*(Note: The requirements are tentative and may change based on the final content)*

***Software:***

- Microsoft Windows 11 Operating System

***Hardware***

- Desktop or a laptop computer per student with a good internet connection

***Cloud Infrastructure:***

Require access to AWS and Microsoft Azure cloud platforms, which may require creating accounts and configuring the necessary permissions to access and use the required services.

Requires an account on the relevant platforms, such as AWS(Amazon Web Services), Microsoft Azure and GCP (Google Cloud Platform)

***Virtual Infrastructure:***

Admin rights to install and use VMware® Workstation and Virtual Box in Windows 10/11 to perform lab activities. These can be trial versions

**Training Outline:****Day 1****Session 1: Introduction to Cloud Computing**

- *Overview of cloud computing*
- *Benefits and challenges of cloud computing*
- *Types of cloud services*

**Session 2: Virtualization Basics with VMware**

- *Overview of virtualization*
- *Types of virtualization*
- *Hypervisors and virtual machines*
- *VMware workstation and virtual machines*
- *Hands-on activity: Installing VMware® Workstation, Creating and managing virtual machines with VMware workstation*

**Session 3: Introduction to AWS**

- *Overview of AWS*
- *Services offered by AWS*

**Session 4: AWS Basics**

- *EC2 instances*
- *Storage and database services*
- *Networking and security*
- *Hands-on activity: Configuring and managing server instances, configuring and securing network access, setting up security measures like firewalls*

**Session 5: AWS Practicals**

- *Configuring and managing storage and database services*
- *Hands-on activity: Configuring and managing storage and database services*

## ***Day 2***

### ***Session 6: Introduction to Microsoft Azure***

- *Overview of Microsoft Azure*
- *Services offered by Microsoft Azure*

### ***Session 7: Microsoft Azure Basics***

- *Virtual machines*
- *Storage and database services*
- *Networking and security*
- *Hands-on activity: Creating and managing virtual machines, configuring and securing network access, setting up security measures like firewalls*

### ***Session 8: Microsoft Azure Practical***

- *Configuring and managing storage and database services*
- *Hands-on activity: Configuring and managing storage and database services*

### ***Session 9: Access Management and Security in the Cloud***

- *Authentication and authorization in cloud environments*
- *Access management and monitoring*
- *Hands-on activity: Configuring and managing access controls and security measures*

### ***Session 10: Cloud Networking Basics***

- *Network architecture and design in cloud environments*
- *Network security and monitoring*
- *Hands-on activity: Configuring and managing cloud networking components like virtual private clouds (VPCs) and subnets*