

**SYLLABUS FOR THE WRITTEN EXAM TOWARDS
VIRTUALISATION AND CLOUD ARCHITECT POSITION
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Fundamentals of Virtualization

- Definition and benefits of virtualization
- Types of virtualization: server, desktop, application, network, storage
- Virtualization platforms: VMware, Hyper-V, KVM, VirtualBox

Hypervisors

- Type 1 (bare-metal) vs. Type 2 (hosted)
- Installation and configuration of hypervisors
- Managing virtual machines (VMs) and containers

Server Virtualization

- Creating and managing VMs
- Resource allocation and management
- Live migration and high availability

Containerization

- Docker basics: containers, images, Dockerfile
- Container orchestration with Kubernetes
- Comparing containers vs. VMs

Introduction to Cloud Computing

- Definition and characteristics of cloud computing
- Cloud service models: IaaS, PaaS, SaaS
- Deployment models: public, private, hybrid, multi-cloud

Cloud Providers

- Overview of major cloud providers: AWS, Azure, Google Cloud Platform (GCP)
- Services offered by cloud providers (compute, storage, networking, databases, etc.)

Cloud Infrastructure

- Virtual networks and subnets
- Load balancing and autoscaling
- Cloud storage options (object storage, block storage, file storage)

Cloud Security and Compliance

- Identity and Access Management (IAM)

- Network security groups and firewalls
- Data encryption and compliance standards (GDPR, HIPAA, etc.)