

DevOps Learning Notes

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### Cloud Introduction

In this lecture we are learning Cloud Introduction and below terminologies

1. Infrastructure
2. Operating System
3. Application
4. Data Center
5. On-Premises vs. Cloud Infrastructure
6. Cloud Service Provider
7. Compute Resources
8. System Configuration
9. Shared Responsibility Model

**Infrastructure:** IT infrastructure are the components—hardware (Processor, Memory, Storage), software (Operating System), networking (Switches, Cabling, Routers) components—required to operate and manage enterprise IT Applications.

**Operating System:** Operating system is the Software that can run on Hardware to provide interface between the Infrastructure resources and human to interact with the hardware to configure the infrastructure resources for business use.

Below are the popular Operating System distributions:

1. RPM Based Linux - Amazon Linux, Redhat Enterprise Linux
2. Debian Based - Ubuntu
3. Windows
4. MacOS

**Application:** Application is the software that can run on Operating Systems. This is the Application Software that can help to manage your business requirements.

Below are the some Application Software examples for various Personal and Business needs:

1. Apache HTTP
2. Jenkins
3. Apache Tomcat
4. MS office
5. Python
6. Media Players

Typically, below is the layered hierarchy to follow to make the server infrastructure useful for the business needs.

1. Prepare Server Infrastructure
2. Install and Configure Operating System
3. Install and Configure Application Software

**Data Center:** Datacenter is the typical physical building space to store the IT infrastructure resources in racks with connectivity, power supply, Temperature Controllers to ensure the infrastructure resources are running without any issues.

**On premises Infrastructure:** On-Premises Infrastructure is the customer managed infrastructure. Which means Customer has to buy the hardware and ensure the installation in the racks and maintain customer owned datacenter to run the business applications.

## Start Preparation Smartly

We have the collection to start  
preparation smartly.

Start Assessment

### 3. Elastic

- Cloud Infrastructure is elastic i.e. capacity can be increase/decrease based on business demands.

### 4. License Management

- Customer need not maintain hardware/software licenses and also hardware failures are not in customer scope.

### 5. High-Availability

- Cloud resources are offered with High Availability so customer business application kept highly available.

**Cloud Service provider:** Service Providers are the owners of the Cloud Infrastructure hosted datacenters. Service Providers are sole responsible to maintain the datacenters and provide required resources to customers' on-demand basis over the internet.

Below are few Cloud Service Providers offering Infrastructure as service.

- Amazon- Offering cloud services through AWS product
- Microsoft – Offering cloud services through Azure product
- Google – Offering cloud services through Google Cloud Platform.

**Compute Resources:** Processor and Real Memory are treated as Compute Resources these two hardware resources are used to process and execute the user instructions.

**System Configuration:** System is the assembling of hardware resources like Processor, Memory, Network, Storage devices etc... Which also called as Server when it serve the applications to remote users. System Configuration is describing about the capacity of the system like how many processors, how much memory installed on the system, capacity of the storage devices, etc...

**Shared Responsibility Model:** Shared Responsibility Model bifurcates the Infrastructure maintenance and Application Maintenance between Service Provider and Customer. The Cloud service Provider is responsible to maintain the datacentres and providing the servers on-demand based on the customer business capacity needs. But installing the required application software and configuring the OS settings are responsible by the customer itself.

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