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What is IT Infrastructure ?
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=> To run a software company then we need to purchase below resources

```
                    a) machines
                    b) network
                    c) power
                    d) storage
                    e) backup
                    f) security
```

=> The above resources are called as IT infrastructure.

=> We can maintain infrastructure in 2 ways

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                    a) On-Prem infrastructure
                    b) Cloud infrastructure
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What is On-Prem Infrastructure ?
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=> On-Prem means we need to purchase and we need to maintain our resources to run our business.

=> We have several challenges with On-Prem infrastructure

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                    1) Lot of money investement
                    2) Lot of man power
                    3) Scalability (increase / decrease)
                    4) Availability
                    5) Network issues
                    6) Security issues
```

=> To overcome the problems of on-prem infrastructure companies are preferring Cloud Infrastructure.

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What is Cloud Computing ?
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=> The process of delivering IT resources over the internet on demand basis is called as Cloud Computing.

=> We have below advantages with cloud computing.

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                    - Pay as you go
                    - Less cost
                    - Scalability
                    - Availability
                    - Security
                    - Backup
```

Note: Cloud computing works based on pay as you go model.

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Cloud Providers
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=> The companies which are providing IT infrastructure based on "pay as you go" model are called as Cloud Providers.

1) Amazon (AWS)

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2) Microsoft (Azure)

3) Google (GCP)

4) Salesforce

5) Ali Baba

6) Digital Ocean

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Cloud Service Models
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=> We have 3 types cloud service models

        1) IAAS

        2) PAAS

        3) SAAS

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What is IaaS
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=> IAAS stands for infrastructure as a service

=> Provider will give infrastructure for us

        Ex: Machines, Network, Storage

=> As a customer we need to prepare platform to run our application

  Ex: install required softwares + setup web servers + deploy application.

        Ex: EC2, VPC

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What is PaaS
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=> PaaS stands for Platform as a service

=> Provider will give ready made platform to run our application directley.

=> As a customer we need to take care of only our application deployment.

        Ex: Beanstack, Lambdas ...

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What is SaaS
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=> SaaS stands for software as a service

-> Cloud Provider will give their application to run our business.

        Ex: zoom, microsoft teams,

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AWS Cloud
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=> AWS stands for Amazon webservices.

=> AWS providing cloud services from 2006 onwards

=> AWS works based on Pay as you go model

=> 190+ countries using AWS cloud services to run their businesses

=> AWS having global infrastructure

        36 - Regions

        112 - Availability Zones

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AWS Services
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=> We have 200+ Services.....

1) EC2 : To Create Virtual Machines (Hourly Billing)

2) S3 : Unlimited storage

3) RDS : Relational Database service

4) EFS : Elastic File System (shared file system)

5) IAM : Identity & Access Management

6) VPC : Virtual Private Cloud (Secured Network)

7) Elastic Beanstack : End to end web-application mgmt (PaaS)

8) Lambdas : Serverless computing

9) Route 53 : Domain Mapping (DNS)

10) ECS : Elastic Container Service

11) EKS : Elastic Kubernetes Service

12) Cloud Watch : Monitoring

13) SNS : Simple Notification Service .....