كلية الرشيد الجامعة
قسم هندسة تقنيات الحاسوب
المرحلة الرابع

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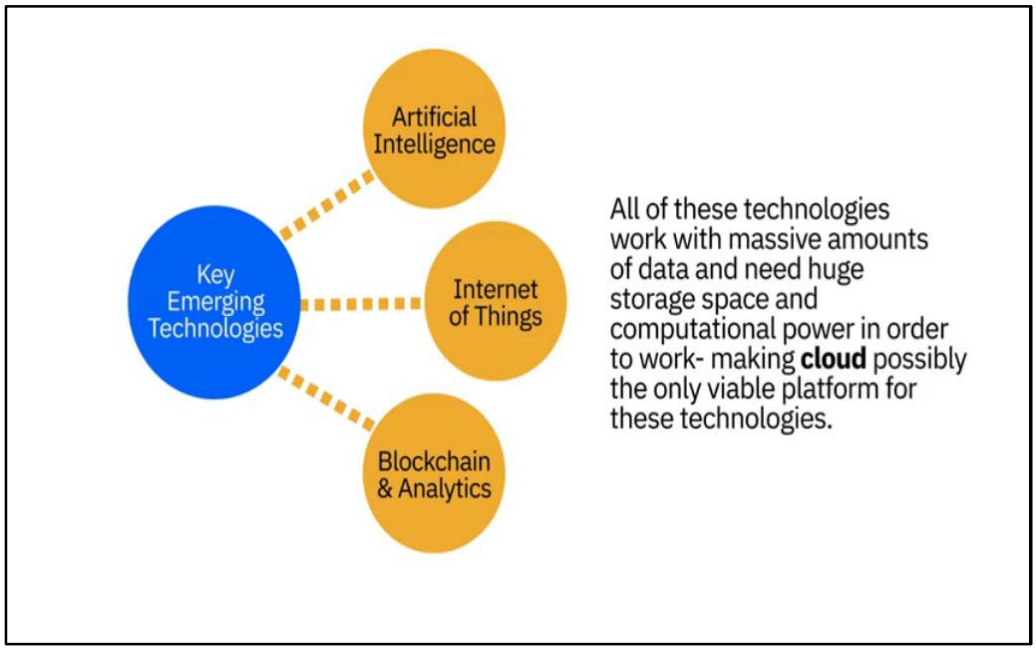
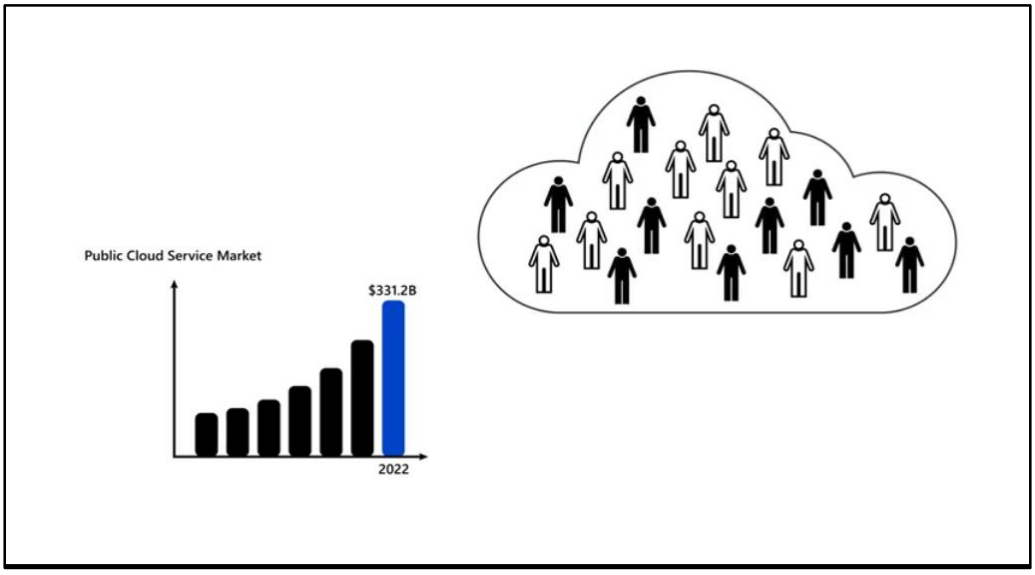
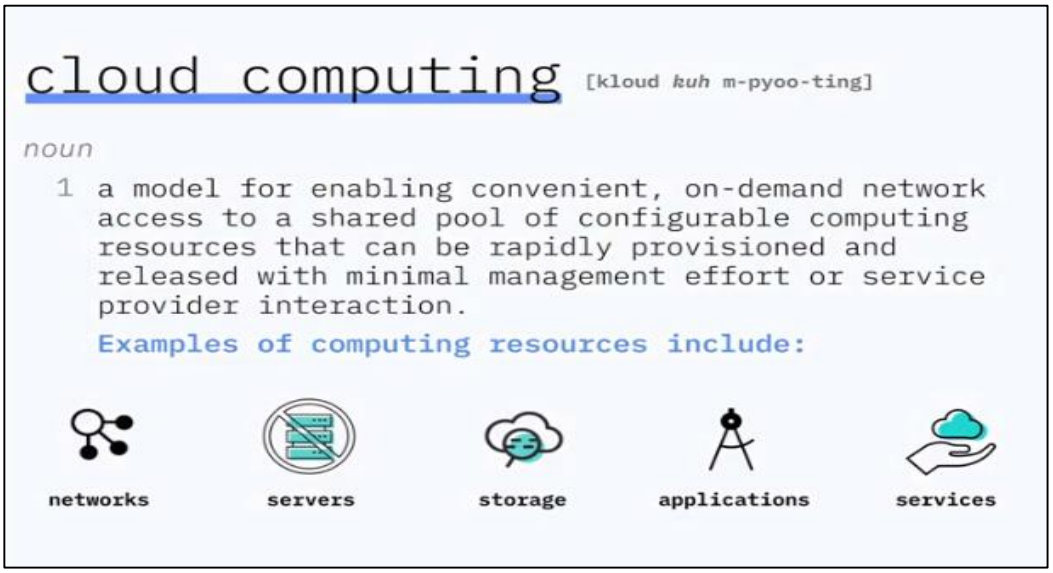
Cloud Computing



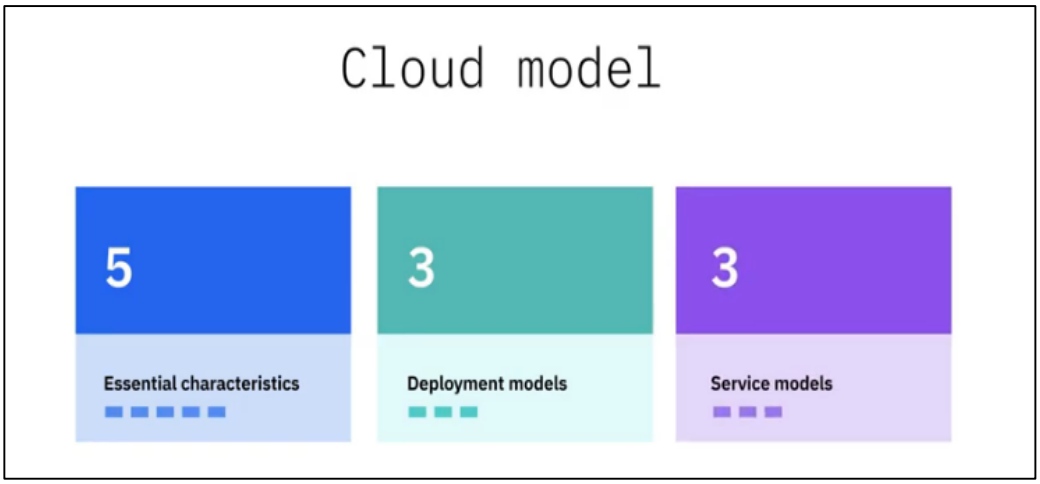


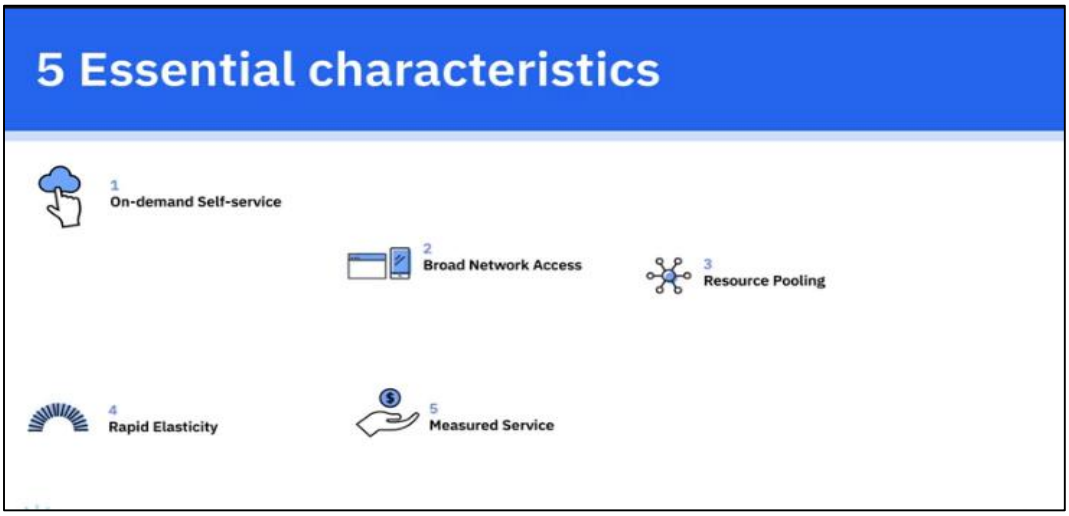
Cloud computing, also referred to as “the cloud,” is the delivery of on-demand computing resources—everything from applications to data centers—over the internet on a pay-for-use basis.

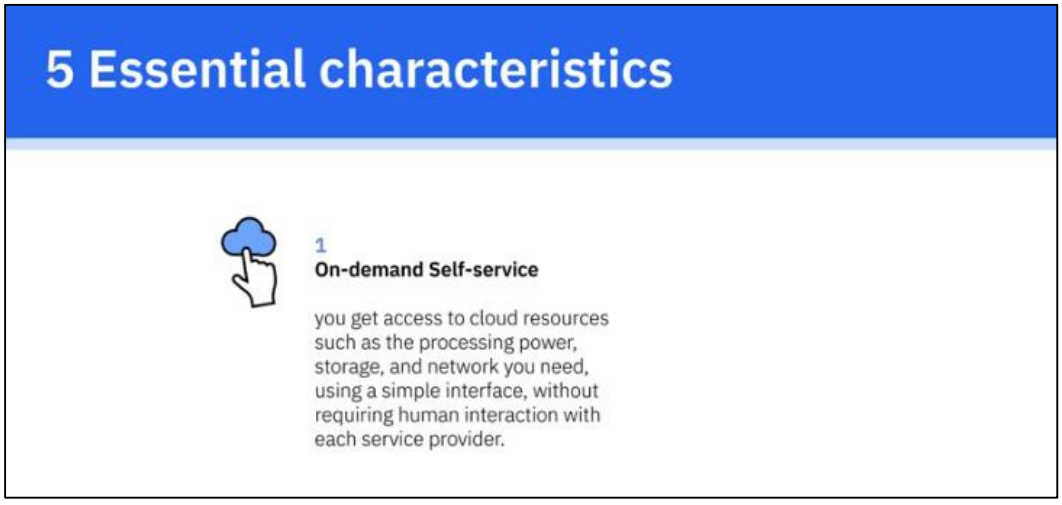
To get a common understanding of cloud computing, let’s start with the US National Institute of Standards and Technology (NIST’s) definition of cloud computing. NIST defines cloud computing as a model for enabling convenient, on-demand network access to a shared pool of configurable computing resources that can be rapidly provisioned and released with minimal management effort or service provider interaction. Ex. of computing resources include networks, servers, storage, applications, and services.



This model is composed of 5 essential characteristics, 3 deployment models and 3 service models.







5 Essential characteristics

2
Broad Network Access

cloud computing resources can be accessed via the network through standard mechanisms and platforms such as mobile phones, tablets, laptops, and workstations.

5 Essential characteristics

3
Resource Pooling

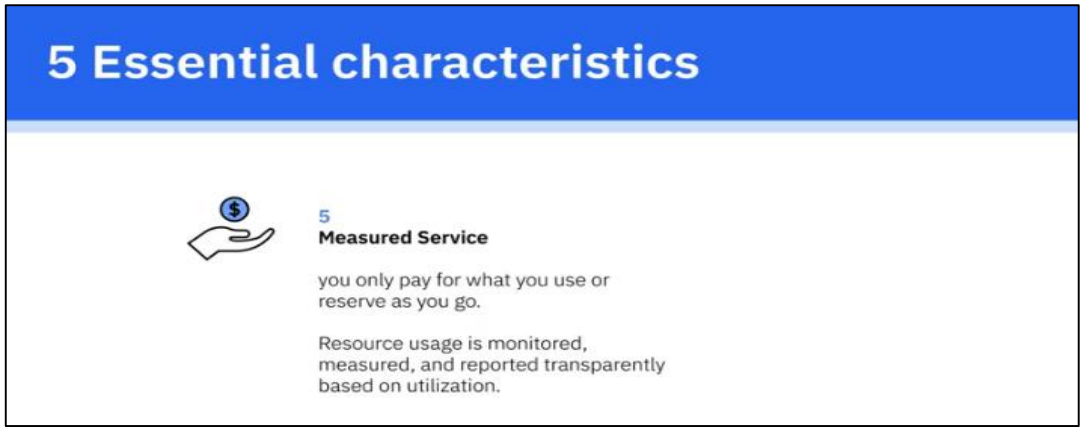
what gives cloud providers economies of scale, which they pass on to their customers, making cloud cost-efficient.

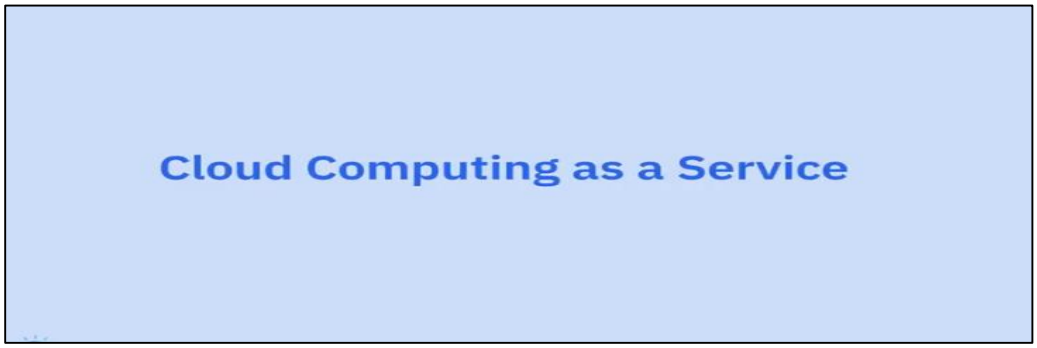
Resources dynamically assigned based on demand

5 Essential characteristics

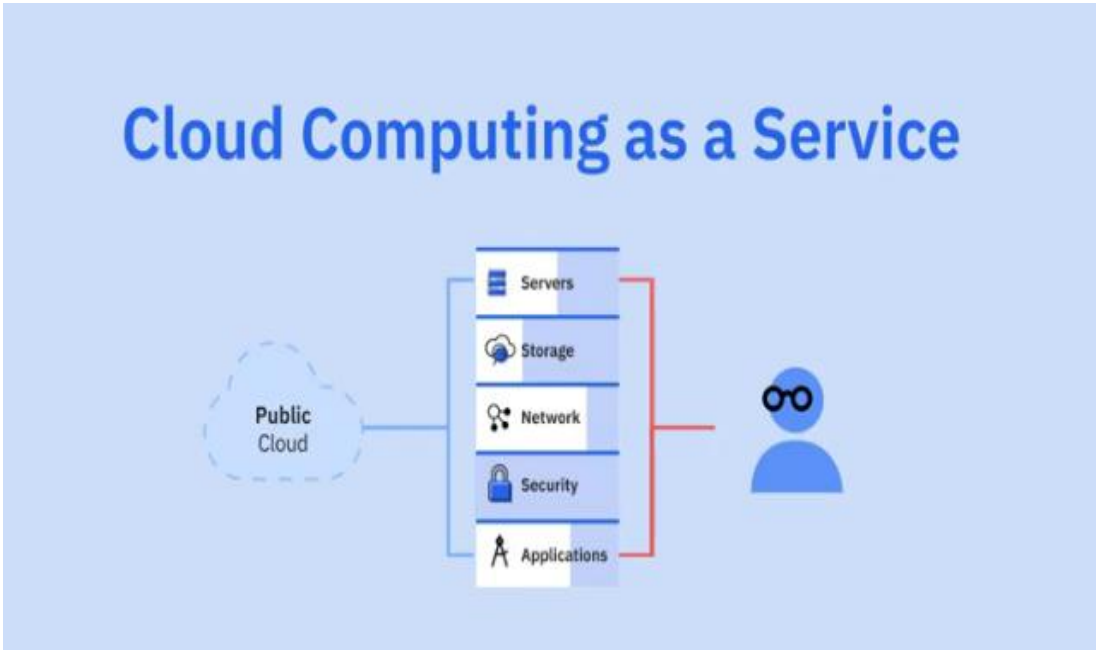
4
Rapid Elasticity

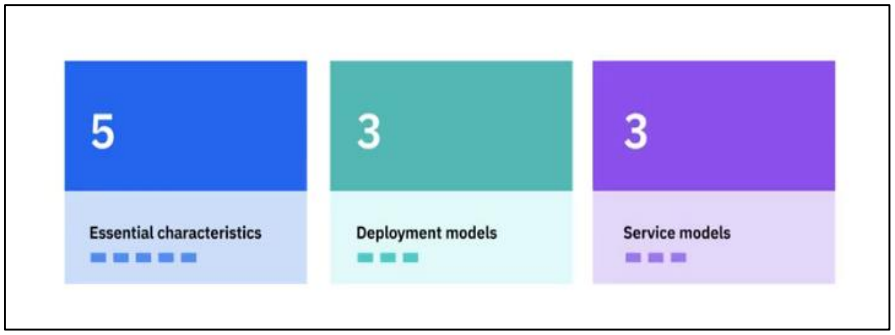
you can access more resources when you need them, and scale back when you don't

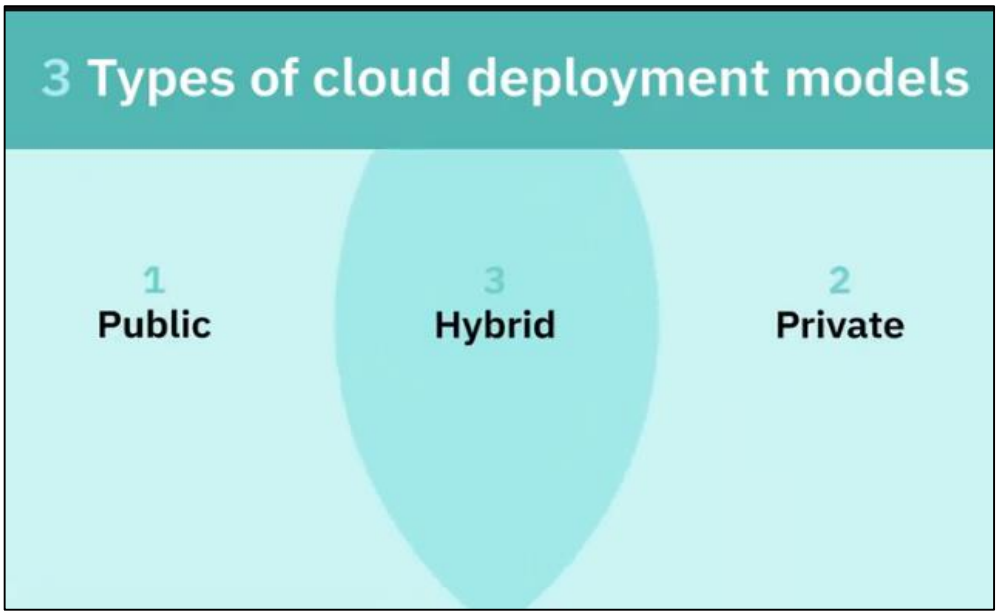


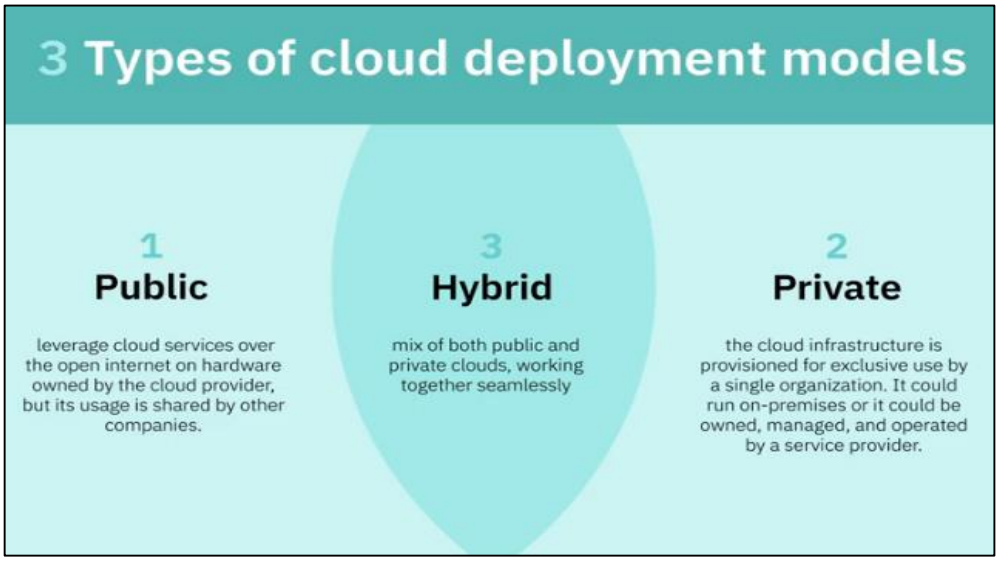


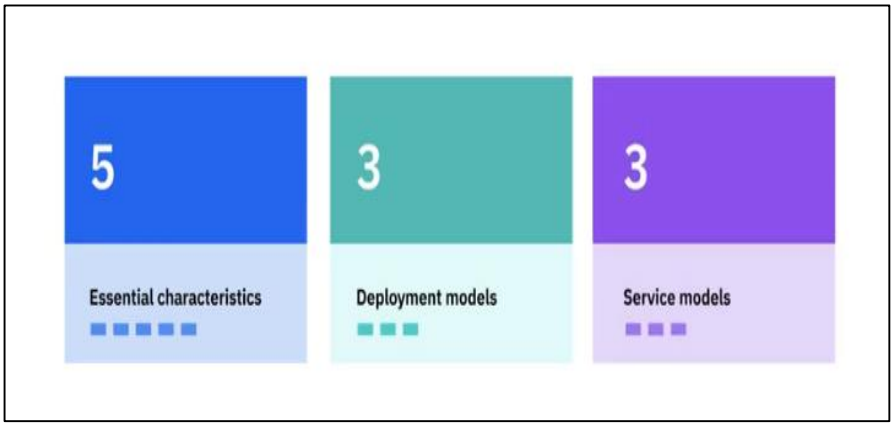
As we see, cloud computing is really about utilizing technology "as a service"—leveraging remote systems on-demand over the open internet, scaling up and scaling back, and paying for what you use. It is a revolution in that it has changed the way the world consumes compute services by making them more cost-efficient while also making organizations more agile in responding to changes in their markets.




5
Essential characteristics
3
Deployment models
3
Service models


3 Types of cloud deployment models
1
Public
3
Hybrid
2
Private


3 Types of cloud deployment models
1
Public
leverage cloud services over the open internet on hardware owned by the cloud provider, but its usage is shared by other companies.
3
Hybrid
mix of both public and private clouds, working together seamlessly
2
Private
the cloud infrastructure is provisioned for exclusive use by a single organization. It could run on-premises or it could be owned, managed, and operated by a service provider.



3
service models

three layers in a computing stack