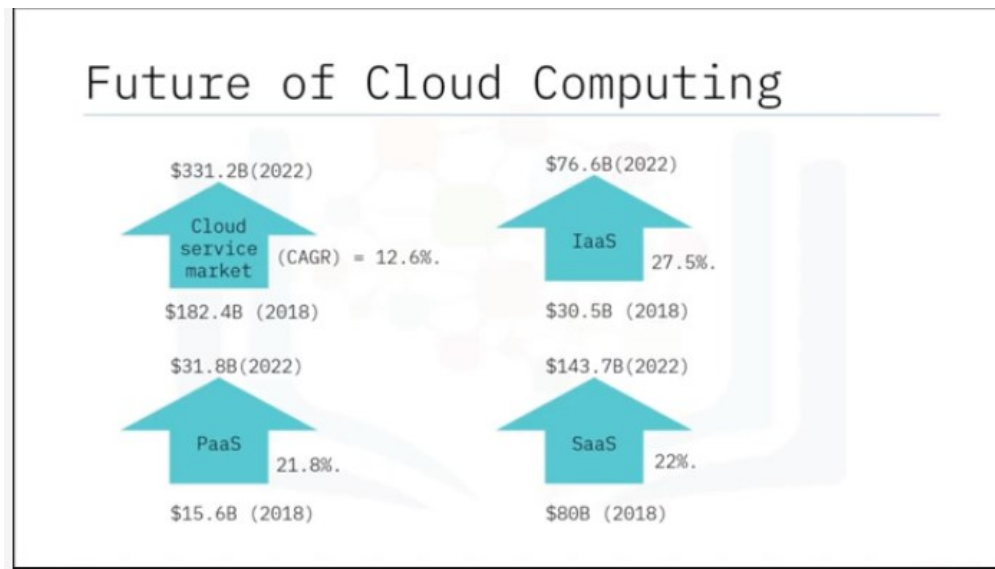**د. محمد علاء حسين**
اسم المادة / **Cloud Computing**
المرحلة / الرابع
القسم/ هندسة تقنيات الحاسوب
الجامعة/ كلية الرشيد الجامعة
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Key consideration for Cloud Computing

● Gartner predicts, the worldwide public cloud service market to grow from $182.4 B in 2 thousand, eighteen to $331.2 B in 2 thousand, twenty-two, attaining a compound annual growth rate (CAGR) of 12.6%.

● Spending on Infrastructure-as-a-Service to increase from $30.5 B in 2 thousand, eighteen to $76.6 B in 2 thousand, twenty-two, growing 27.5% in a year.

● Platform-as-a-Service spending to grow from $15.6 B in 2 thousand, eighteen to $31.8 B in 2 thousand, twenty-two, growing 21.8% in a year.

● With software investments shifting from cloud-first to cloud-only, spending on Sofware-as-a-Service is expected to grow from $80 B in 2 thousand, eighteen to $143.7 B in 2 thousand, 2022.

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Future of Cloud Computing

$331.2B(2022) — Cloud service market (CAGR) = 12.6%. — $182.4B (2018)	$76.6B(2022) — IaaS 27.5%. — $30.5B (2018)
$31.8B(2022) — PaaS 21.8%. — $15.6B (2018)	$143.7B(2022) — SaaS 22%. — $80B (2018)

What is clear is that cloud is accelerating faster than predicted, adoption is high, and revenues are soaring.

The question for businesses today is no longer "if" they need to adopt the cloud, rather "what" their cloud adoption strategy should be to best serve their businesses and customers. Keeping up with this technological wave, and driving it forward, are the Cloud Service Providers with a wide range of services.
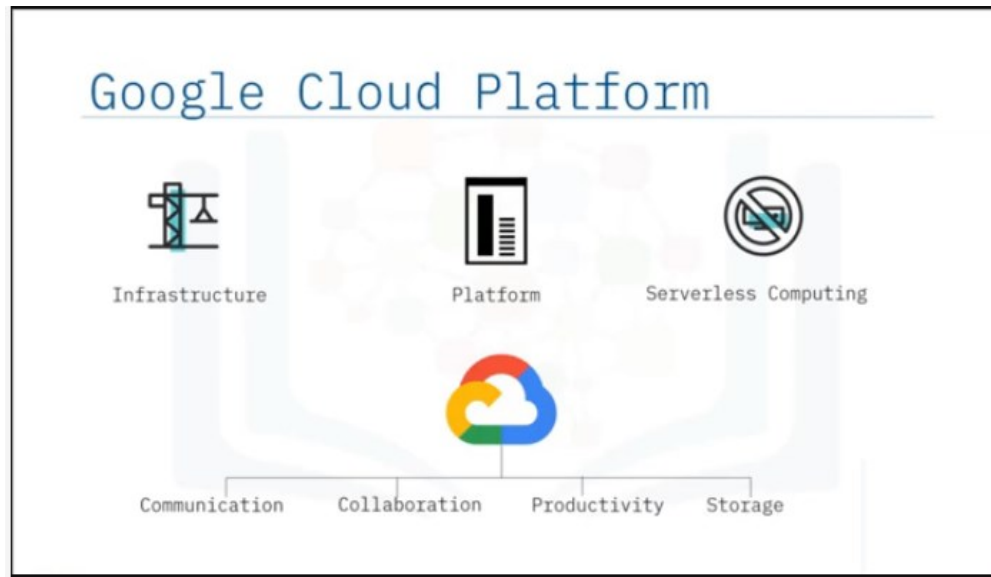
Cloud Service Providers

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One of the first to enter the cloud computing space, *Amazon Web Services, or AWS Cloud,* offers an extensive range of Infrastructure and Platform services to individuals, companies, and governments on a metered pay-as-you-go basis. The Amazon Cloud provides a wide range of products, services, and solutions ranging from Compute, DevOps, Data, Analytics, IoT, Machine Learning, Networking, Content Delivery, Robotics, Serverless Computing, and much more.
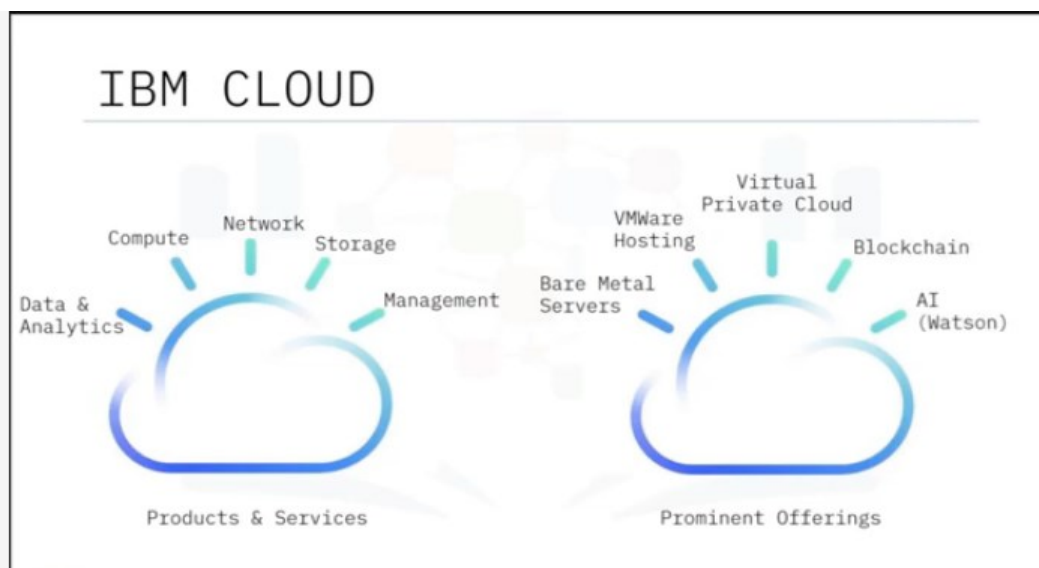

Amazon Web Services

Google Cloud Platform, or GCP, is a suite of cloud computing services, providing Infrastructure, Platform, and Serverless Computing environments. Google also uses GCP internally for their end-user products such as Google Search and YouTube. Google Cloud includes G Suite with products for communication, productivity, collaboration, storage, and more. The Google App Engine is a platform for developing and hosting web applications in Google-managed data centers, automatically allocating and de-allocating resources to handle demand.
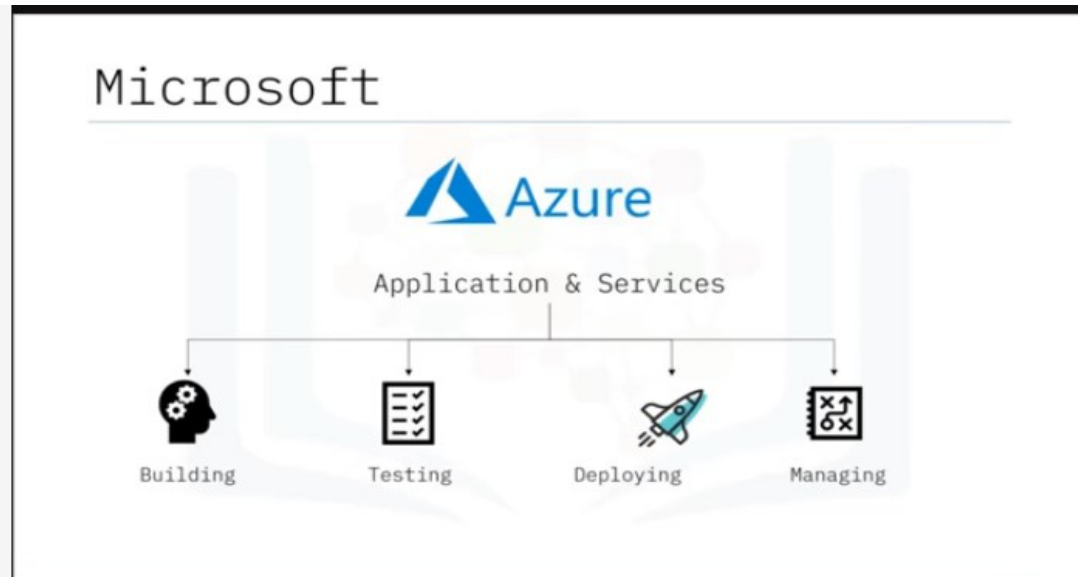
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IBM cloud is a full stack cloud platform that spans public, private, and hybrid environments with products and services covering compute, network, storage, management, security, DevOps, and databases. Some of their prominent offerings include their Bare Metal Servers, VMWare, Cloud Paks for Application Modernization, Virtual Private Cloud, and the suite of emerging technologies such as AI, IoT, Blockchain, Data and Analytics. With the acquisition of Red Hat, IBM is also positioning itself as the leading hybrid cloud provider of our times.
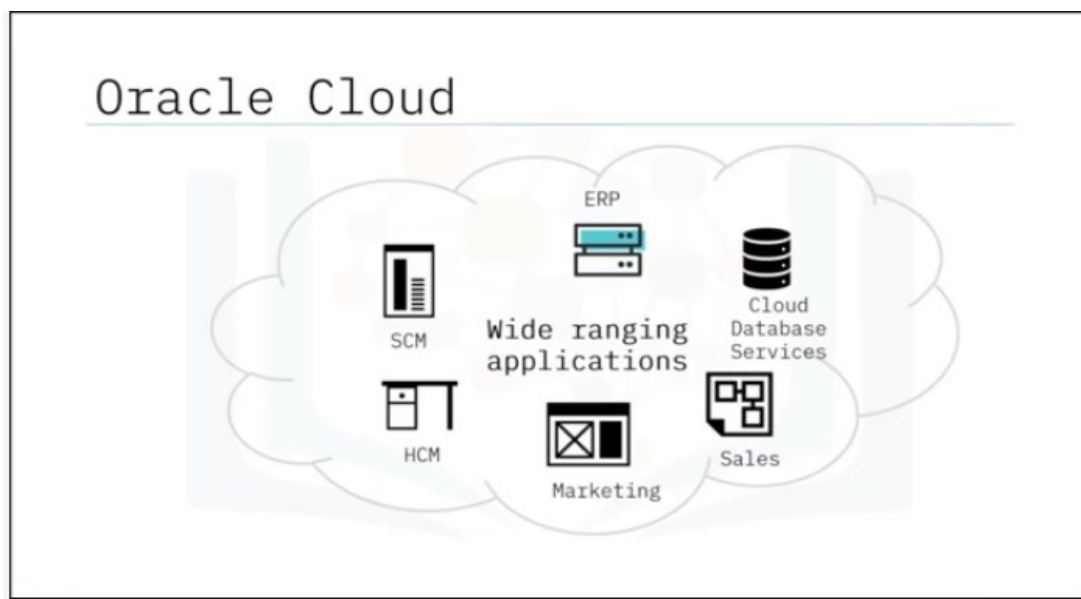
Microsoft Azure is a flexible cloud platform for building, testing, deploying, managing applications and services through Microsoft-managed data centers. With its data centers spread out in many regions, Azure provides a global reach with a local presence. It provides Software, Platform, and Infrastructure services supporting Microsoft-specific and third-party languages, tools & frameworks.
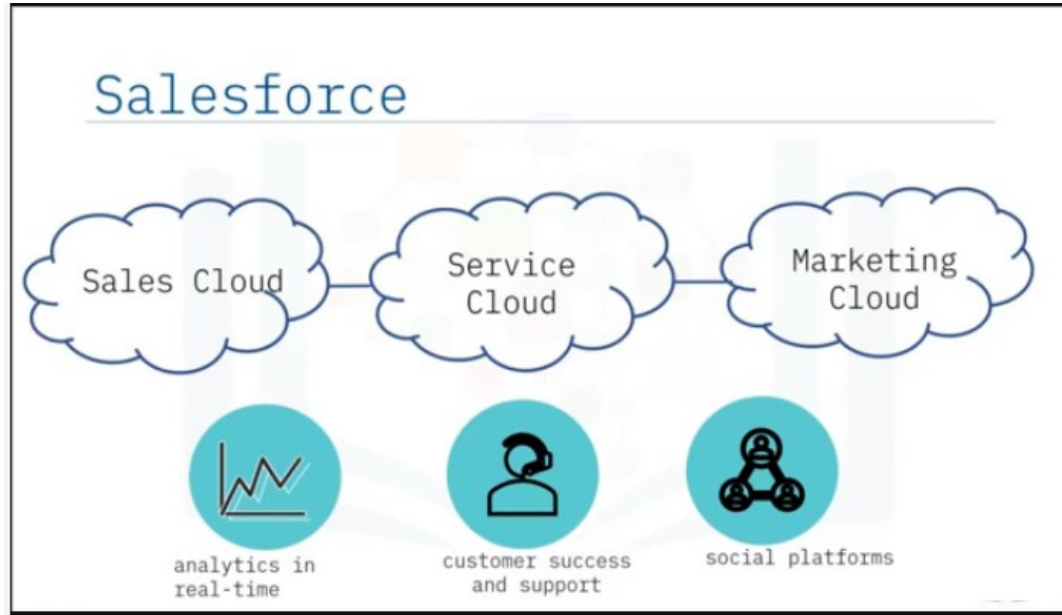
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Oracle Cloud is primarily known for Software as a Service and Database as a Service (also known as the Oracle Data Cloud). Oracle's SaaS offering includes wide-ranging applications such as ERP, SCM, HCM, Marketing, Sales, and CX running in the cloud. And the Oracle Data Cloud provides one of the largest cloud-based data management platforms helping customers personalize their online, offline, and mobile marketing campaigns, for targeted audiences. Oracle Cloud also provides some cloud Infrastructure and Platform services.
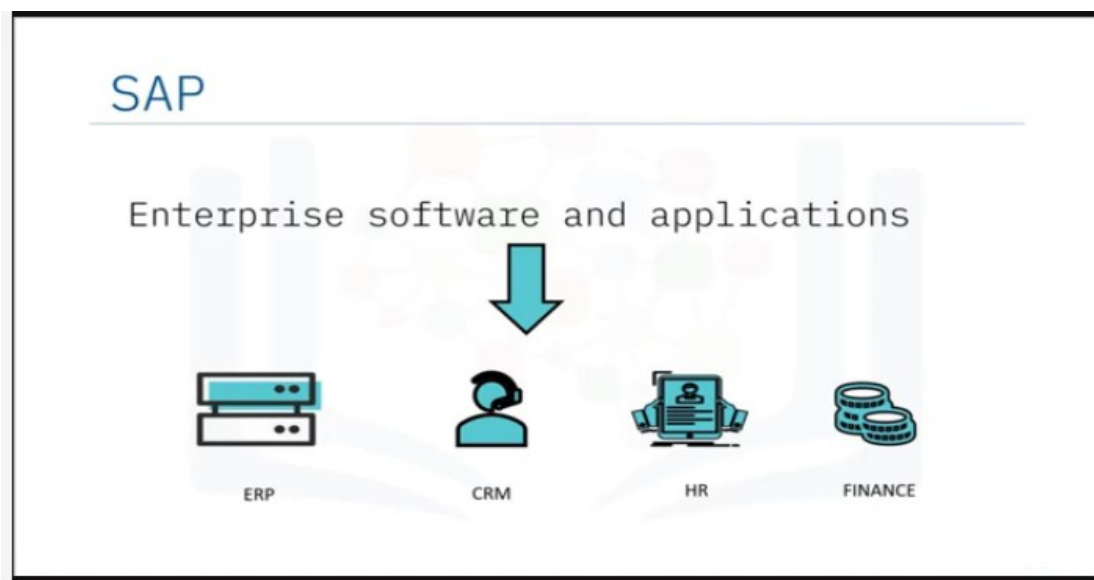
Salesforce specializes in their Software as a Service offering that focuses on customer relationship management, supporting businesses to better connect with their customers, partners, and potential customers. Salesforce offers multiple cloud services such as Sales Cloud, Service Cloud, and Marketing Cloud, helping customers track analytics in real-time, customer success and support, customer complaints, even listening in to customers across social platforms to automatically route them to appropriate agents for resolution.
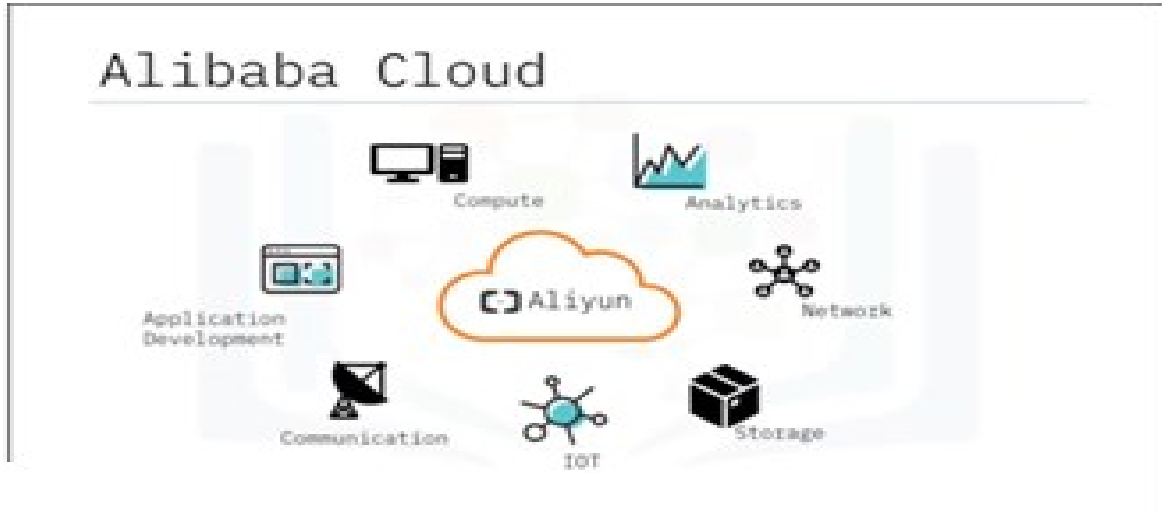
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SAP is known for Enterprise software and applications such as ERP, CRM, HR, and Finance, running in the cloud. There is also an SAP Cloud Platform for building and extending business applications with rapid innovation cycles in a secure cloud computing environment managed by SAP.

Alibaba Cloud,

also known as Aliyun, while relatively new, is the largest Chinese cloud computing service provider. Aliyun provides a comprehensive suite of global cloud computing services to power not just their customers' online businesses but also the Alibaba Group's own e-commerce ecosystem. It offers a host of products and services such as compute, network, storage, security, monitoring and managing, communication, analytics, IoT, application development, data migration, web hosting, and more.

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