As a Service Models

After completing this episode, you should be able to:

- Discuss the various "as a service" models that are possible thanks to modern day cloud technology

Description: In this episode, you will learn about the various "as a service" models that are popular today thanks to cloud technologies. This discussion includes IaaS, PaaS, SaaS, and FaaS.

As a Service Models

IaaS (Infrastructure as a Service):

- IaaS provides virtualized computing resources over the internet. Users can rent servers, storage, networking, and other infrastructure components rather than purchasing and maintaining physical hardware.
- With IaaS, users have control over the operating systems, applications, and development frameworks, while the cloud provider manages the underlying infrastructure.
- Popular examples of IaaS providers include Amazon Web Services (AWS), Microsoft Azure, and Google Cloud Platform (GCP).

PaaS (Platform as a Service):

- PaaS provides a platform allowing customers to develop, run, and manage applications without dealing with the complexity of building and maintaining the underlying infrastructure.
- It typically includes tools and services for application development, such as databases, middleware, development tools, and operating systems.
- PaaS abstracts away much of the underlying infrastructure management, allowing developers to focus more on coding and deploying their applications.
- Examples of PaaS offerings include Heroku, Google App Engine, and Microsoft Azure App Service.

SaaS (Software as a Service):

- SaaS delivers software applications over the internet on a subscription basis. Users access these applications via a web browser or API without needing to install or maintain any software locally.
- SaaS applications are hosted and managed by the service provider, who handles maintenance, updates, security, and scalability.
- Examples of SaaS applications include Salesforce for CRM, Google Workspace for productivity tools, and Netflix for streaming media.

FaaS (Function as a Service):

- FaaS is a cloud computing model where cloud providers manage the infrastructure required to execute code in response to events or triggers.
- Developers write small, single-purpose functions, and the cloud provider dynamically allocates resources to execute these functions as needed.
- FaaS abstracts away the need for developers to manage servers, scaling, and infrastructure, allowing them to focus solely on writing code.
- Examples of FaaS platforms include AWS Lambda, Google Cloud Functions, and Microsoft Azure Functions.

Additional resources

- What are IaaS, PaaS, and SaaS: https://www.ibm.com/topics/iaas-paas-saas (https://www.ibm.com/topics/iaas-paas-saas)