Cloud Services and IoT

# Types of Cloud Offerings

1. 1. Infrastructure as a Service (IaaS)

IaaS provides virtualized computing resources over the internet. Users can rent servers, storage, and networking on demand. This is useful for full control of the infrastructure, but requires managing OS, middleware, and applications.  
Example: Azure Virtual Machines, Amazon EC2.

1. 2. Platform as a Service (PaaS)

PaaS offers a platform allowing users to build, run, and manage applications without worrying about infrastructure. Developers focus only on code, while the provider handles servers, storage, and networking.  
Example: Azure App Service, Google App Engine.

1. 3. Serverless

Serverless computing lets developers run code without managing servers at all. You only pay for the compute time you use, and it automatically scales.  
Example: Azure Functions, AWS Lambda.

1. 4. Software as a Service (SaaS)

SaaS delivers software applications over the internet on a subscription basis. The provider manages everything (infrastructure, updates, security).  
Example: Microsoft 365, Google Workspace.

# Which Offerings are Relevant for IoT Developers?

• IaaS is useful when you need full control of your virtual machines or containers for handling device data, custom protocols, or specific server setups.

• PaaS is ideal for building and deploying IoT dashboards, APIs, or analytics platforms quickly.

• Serverless is very useful for IoT because it allows real-time processing of sensor data with auto-scaling, low cost, and minimal maintenance.

• SaaS is less directly relevant, but some SaaS platforms like Azure IoT Central can simplify deployment for small-scale projects.

# Summary

IoT developers typically benefit most from PaaS and Serverless due to ease of use, scalability, and fast deployment—making them ideal for handling sensor data, device events, and automation triggers.