

التدريب الصيفي 2  
SUMMER TRAINING 2

# التدريب التقني المتقدم لمعمل إنترنت الأشياء

لصيف ١٤٤١ هـ - ٢٠٢٠



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# Introduction to Cloud Computing

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# What is a cloud?

A “cloud” is a computer system that provides users with shared access to on-demand computing resources via the internet.



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# Why is it Useful?

- Resource Utilization
- Scalability and Elasticity
- Reliability through redundancy
- Cost saving



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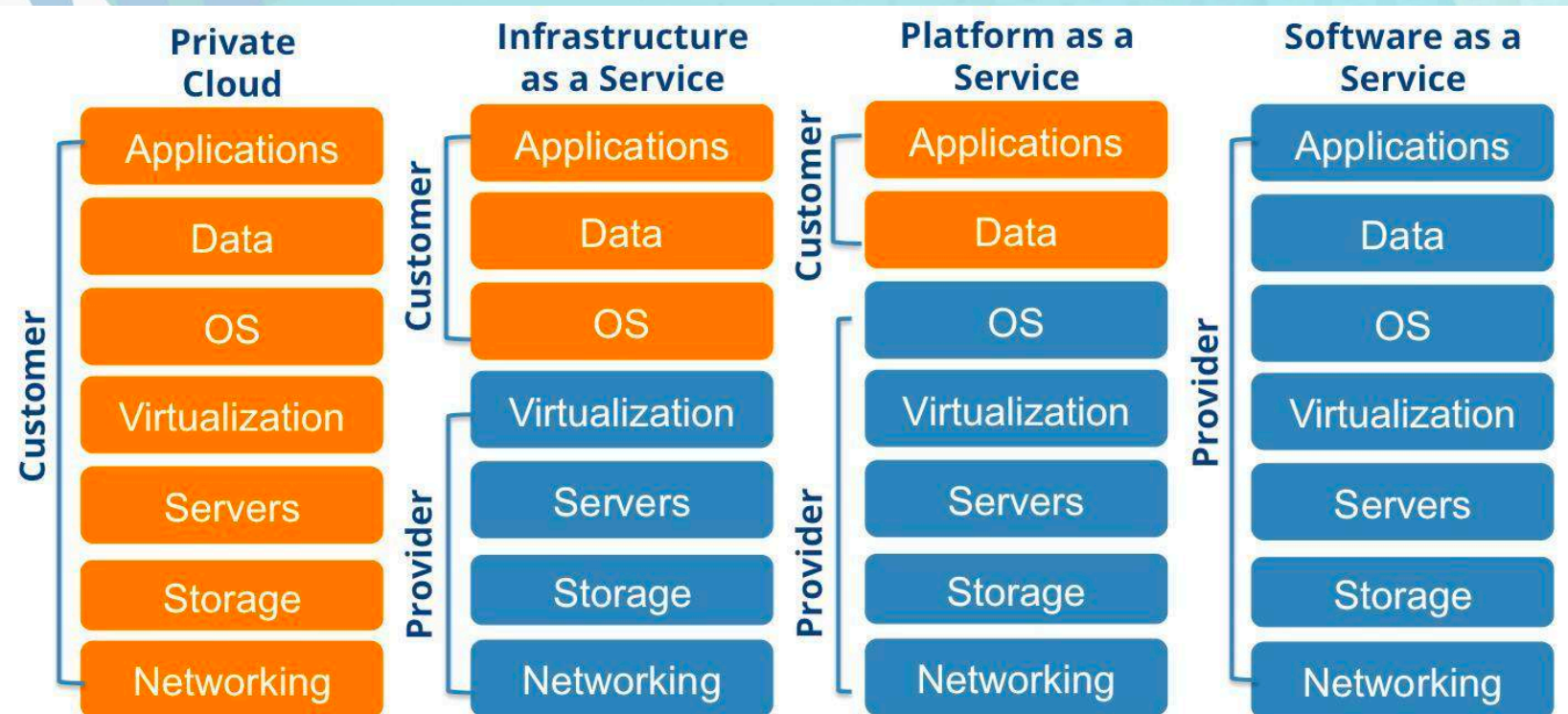
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# Cloud Service Models



# Cloud Service Models

## Infrastructure-as-a-service (IaaS)

- Highly flexible and highly scalable, accessible by multiple users, cost-effective.

## Platform-as-a-service (PaaS)

- Accessible by multiple users, scalable, built on virtualization technology, easy to run without extensive system administration knowledge.

## Software-as-a-service (SaaS)

- Available over the internet, hosted on a remote server by a third-party provider, scalable, inclusive, offering security, compliance, and maintenance as part of the cost.



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# Cloud Service Models

## Infrastructure-as-a-service (IaaS)

- Virtual servers, networks, firewalls, etc. (AWS, Azure)

## Platform-as-a-service (PaaS)

- Deploy application without managing virtual servers (Google App Engine)

## Software-as-a-service (SaaS)

- Ready to use software applications (Gmail)



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# IoT Platform

**Platform** is a set of tool and services which enable developers to develop and run an application.

- AWS, Google Cloud, Microsoft Azure.
- Thingspeak
- Thingsboard
- Dynthings
- Etc,,



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# Top Cloud Platforms with IoT services



# Choosing IoT platform criteria

- Scalability
- Bandwidth
- Protocol
- System Performance
- Security
- Cost



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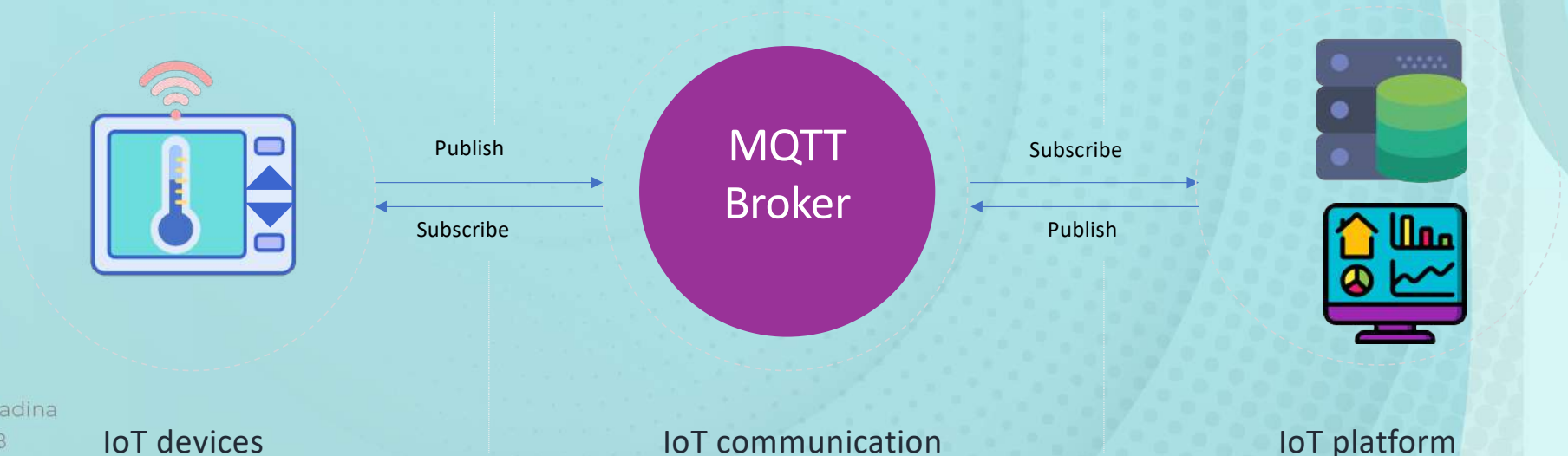
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# Way to Connect

MQTT (Message Queue Telemetry Transport)



IoT devices

IoT communication

IoT platform

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# Node-Red Exercise



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# Thank you



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