A black and white logo

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**Cloud services document**

OFS Platform

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# What is cloud services?

Cloud services are platforms and infrastructures that offer a collection of IT services which aim to facilitate the typical end user data flow all the way to backends. There are multiple types of cloud services namely, 1. IaaS (Infrastructure as a Service), 2. PaaS (Platform as a Service) and 3. SaaS (Software as a Service).

**Infrastructure as a Service:** it is a pay-as-you-go service where you are rented an infrastructure and manage OS, runtime, Data and business logic code.

**Platform as a Service:** you do not have to bother about the runtime and the OS, this service manages both and you have to focus only on business logic code and the data you want to maintain.

**Software as a Service:** The cloud provider offers to you the end product in form of subscription and it is completed managed by the vendor.

There are multiple popular vendors or cloud computing services namely, AWS (Amazon web services), Google cloud, Azure and Oracle.

Each vendor has its own cloud services and usually if an application is built using those vendors it is difficult to switch to another vendor and also this comes with an increase in the learning curve as different services in different vendors typically have a different coding style, requirements and dependencies.

# Why my project needs cloud services

It is important to look at the context of the application to understanding the need of those services. OFS platform (Oman freelancing services) will be used in the following manner:

* Any service seeker in Oman can surface nearby local services and understand their average cost.
* Any freelancer can receive service requests notification no matter where they are location
* Most citizens of Oman know where to look for local services (unified platform)

**Looking at key elements of the application,** Oman freelancing services platform needs to be deployed/hosted at some point in the development cycle and some of its quality attributes are **paying for what you use**, needs to **handle high number of users** and be easily **scalable.** I looked which could services can serve the best for those requirements and concluded that serverless computing suits the context the best.

# Why serverless ?

**There is a multitude of systems the platform contains,** such as messaging system, chat system and most obvious is login system. Having to maintain business logic code alone will take an enormous effort and serverless computing allows me to focus on business logic completely and not worry about any infrastructure maintenance. Additionally, it supports the architecture of microservices which is the best for such platform. The number of Oman citizens is more than 3.5 millions should the platform must support their interactions simultaneously, the process of advertising such platform can take sometime so initially it is expected that very few people will actually use the platform. Thus, paying as you go instead of paying for idle and go makes sense for OFS.

# Proofs of acquired skills

A screenshot of a computer

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Graphical user interface, text, application

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Graphical user interface, text, application

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I took a course on serverless microservices architecture in Udemy and hosted an experiment chating app using **Lambda**, **dymonoDB**, **API Gateway** and Simple storage service (**S3 bucket**) to host the client side. In such application, the client side is hosted in S3 and only is loaded when the user enters the website domain so it is pay as you go service. Lambda functions can form a microservice(s) which mainly are functions that only run when end user invoke them, thus they are fast which satisfies having responsiveness even for a high number of users.