Cloud Application Development Project

Host a Cloud Application

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# Introduction

Note: This write-up document is considered to be an “Academic Research” Document, treat it accordingly.

All code used in this project can be found at the following Github Repository:

<https://github.com/DogPope/CloudPhpApp.git>

\*NOTE: Update this section before submission. There is also cloud related things need to be added here that are not decided yet.

Cloud Computing is the process of moving the hosting of applications to off-site servers that allow for lower overheads, such as in the areas of security and physical space.

Cloud Computing offers potential customers many advantages that traditional servers do not. Cloud Computing allows potential customers to host their services in data centres and not locally. This allows for the reduction in costs by not requiring hardware to store data, delegating that task to others and making the organisation more flexible as a result.

Cloud computing has also introduced risks associated with hosting your application on servers in terms of reliability, and costs.

# Chosen Application

The application for this assignment is a simple CRUD application written in the Hypertext Preprocessor language (PHP). This application focuses on selling games to customers, who can sign up to an account, log in to the service and use their credentials to purchase games from a database.

The database language used was MySql, in this case the version that comes with Xampp, an Apache service. The service implemented within Xampp is called MariaDB, a fork of MySql that was taken before it’s acquisition by Oracle.

The business logic in this application is implemented in PHP. PHP is a weakly typed language, designed to work in Web Browsers. It shares this space in the market with the Javascript programming language, and is considered overshadowed by the Javascript programming language.

The application was refactored over the course of a week to update the file structure to reflect more modern structures and introduce a more sane layout that is more intuitive to the end user. The application logic was also updated to ensure that all functionality was accounted for and would provide a less frictional experience going forward.

# Factors in Choosing the Correct Cloud Provider

## Reliability and Performance

When a server is located closer to its’ customers, it often results in many improvements to an already existing service. Lower latency can be achieved by keeping closer to the potential end users of the site. The benefits of taking such an approach to latency are that end users experience a faster, more responsive site.

Certain services exist to check the potential impact this may have on speeds, such as cloudpingtest.com, which hosts ping services for a range of major service providers such as AWS and Azure, all the way to smaller providers like Scaleway in France and Contabo in Germany. The tool in question is pictured operating on the Scaleway service below (Systron Labs, 2025): A screenshot of a computer

AI-generated content may be incorrect.The further you are based from your relative server, the higher the latency, as a general rule. In the screenshot above, the servers are located on Mainland Europe, therefore, in theory, should return with slightly higher latency than their American counterparts, as these services host their European Infrastructure in Ireland.

Cloud Service providers are prone to being down for undisclosed periods of time. This provides another metric with which to make a decision based on downtime. There are also metrics available that measure this, providing potential customers more data to make an informed decision.

# Cloud Providers

The following cloud providers were considered for this project:

Amazon AWS: Amazon, a behemoth of a corporation, has the most wide range of the major providers. It has offices in many countries, including but not limited to, Japan, England, Canada and Brazil.