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research document

Cloud services in businesses

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# Version history

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# Distribution

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# Project research

## Context

This research plan is meant to analyse cloud services appliances in business models to investigate mitigations and adaptations required for a business to choose cloud services.

In recent years technology has advanced where most of the tech systems depend on fast processing power and the ability to transfer massive amounts of data. The use of cloud services can help businesses reduce IT costs, improve scalability, and enhance collaboration and productivity. Additionally, cloud services can offer various benefits to businesses such as increased flexibility, accessibility, and security.

# Problem

In my research I am considering of approaching applications of cloud services in business models as well as researching how to apply the cloud services optimally.

Firstly, I’m interested in researching how cloud systems can improve businesses and as well be relevant to business owners to adapt to cloud systems. Mitigating their concerns about the reliability, security, and privacy of cloud-based solutions. Therefore, it is essential to conduct research that explores the different uses of cloud services for businesses and the factors that impact their usage.

Secondly, I’m interested in applying it in my project if I won’t have any service costs of using a cloud service. Because it is another factor why it is difficult to practice and build cloud services where many of the providers requests service costs of using their servers. This makes it difficult for students to practice developing cloud services because the demo services have limited request amount.

# Research questions & methods

## Main research

Main question:

How are cloud services applied in software and business models?

Initial questions that should be researched further based upon main requirements:

1. What is cloud, and how does it work?
2. How will I set up cloud services?
3. How to apply cloud services in REST API?
4. How cloud services effect business?
5. How cloud services work with docker?
6. What optimizations would allow the software to run fast?
7. How would cloud services work in an enterprise software architecture?
8. How to determine the best performing settings?

## Methods

For my research I will depend on DOT Framework to apply best practices in analysing different aspects of my research.

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### What of my research

I want to research different uses of cloud services in development and understand what the benefits of applying such technology. As well get additional insight on how such technology could benefit businesses and what are the main concerns of business owners to adapting to such technology.

### Why of my research

I will be looking into different online sources to get a better insight how cloud services are applied and how are they used in optimizing a company’s processes. The derived questions from the main research question should allow me to conceptualize the existing problems that would benefit me in understanding about cloud and as well allowing me to have extra basis why it would be useful for IT business owners.

* **Reliability**
* **Security**
* **Privacy of cloud-based solutions**
* **Adaptability**

### How of my research

Here are several ways how the dot framework will be applied in researching on a topic to get a better understanding on my research questions.

|  |  |
| --- | --- |
| 1. Library | Researching various online sources for more insight regarding cloud topic and available courses online for trusted instructions. |
| 2. Field | Research will consist of requesting feedback from teachers or other students on various features of cloud application. |
| 3. Lab | The developed individual project will be used for application of cloud services. |
| 4. Showcase | I will depend on showcasing my software to my teachers, teammates, or other friends to get feedback upon some features. |
| 5. Showcase | In the university there are various lectures that give insight upon different software that could be managed together. |

How will I apply methodologies to different task that I have considered in my personal project.

Methodology application:

1. Conduct a thorough review of the existing literature on e-commerce website development and cloud infrastructure.
2. Identify the key requirements and specifications of the e-commerce website through existing examples such as (Amazon, eBay, etc.)
3. Conduct a comparative analysis of the available cloud platforms, considering factors such as cost, scalability, security, and ease of use.
4. Design the cloud architecture for the e-commerce website, using best practices such as microservices, containerization, and serverless computing.
5. Integrate the necessary features and functionalities using appropriate programming languages and frameworks.
6. Conduct testing and quality assurance, including load testing, security testing, and functional testing, to ensure the website's stability and performance.
7. Deploy the website on the selected cloud platform, following the best practices for cloud deployment.
8. Monitor the website's performance, using tools such as log analysis, error monitoring, and performance monitoring.
9. Provide documentation and training to the relevant personnel to ensure proper maintenance and management of the website.

# Deliverables

The deliverables will consist of research document that analyses how cloud functions and its application in a business model.

# Time plan

## Phasing

This project will be in sprints consisting of three phases, such as:

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  + During documentation phase I will gather and re-analyze the existing problems to find any alternative implementations, as well as update the documentation with the rearrangement of process plan. This will allow me to set up clear goals for the sprint.
* Development & Testing Phase
  + During development phase I will implement and rework the defined tasks that I have set for the current sprint. This will be the most difficult phase where I will have to put most effort in delivering the defined functionalities. In addition, I will have to apply some testing to the software to comply with the security requirements.
* Deployment & Feedback Phase
  + During the deployment phase, I must hand in all my documentation and any necessary content to be reviewed by my teachers. This will provide me insight on what I should reflect on from the teacher’s feedback for the next sprint.

## Sprint plan

|  |  |  |  |
| --- | --- | --- | --- |
| Sprints | Phasing | Start Date | End Date |
| Sprint 1 | Research plan draft  Project plan draft | Feb 26 | Mar 19 |
| Sprint 2 |  | Mar 20 | Apr 10 |
| Sprint 3 |  | Apr 11 | Apr 30 |
| Sprint 4 |  | May 1 | May 21 |
| Sprint 5 |  | May 22 | June 12 |
| Sprint 6 |  | June 13 | July 4 |