Cloud Computing - On Demand - Progress Report

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1. Plan - updated

Although the tasks within the plan table below seems to be one after another, it should be stated that tasks may be interleaved, that is, two tasks can be executed concurrently.

Task	**Deadline**
Submit plan	March 10, 2024
Literature Review	March 31, 2023
Initial Readings	April 21, 2024
Submit progress report	April 21, 2024
Proofreading	May 19 , 2024
Submit final report	May 26, 2024

2. Work Completed - Notes

A Taxonomy and Survey of Cloud Computing Systems (B. P. Rimal et al., 2009): [1]

This paper presents a taxonomy of cloud computing systems and surveys existing solutions. Key concepts covered include:

- Cloud service models (e.g., SaaS, PaaS, IaaS)
- Virtualization techniques
- Fault tolerance considerations
- Security concerns
- Load balancing for scalability

The future is serverless (By Michael Maximilien et al., 2022): [2]

This blog post discusses the potential of serverless computing as the future of cloud solutions. It highlights the benefits of serverless computing in terms of:

- Cost efficiency and energy savings
- Automatic resource provisioning
- Reduced environmental impact

Cloud Computing: An Overview (Ling Qian et al., 2009):

This book chapter provides a comprehensive overview of cloud computing, including: [3]

- A clear definition of cloud computing
- Five major technical characteristics:

  - Large-scale computing resources
  - High scalability and elasticity
  - Shared resource pool (virtualized and physical)
  - Dynamic resource scheduling
  - General-purpose functionality
- The strategic importance of cloud computing for businesses and governments

Overview of virtualization in cloud computing (N. Jain S. Choudhary, 2016): [4]

This paper explores the concept of virtualization in cloud computing, explaining:

- The ability to run multiple operating systems and virtual machines on a single server
- Two types of hypervisors: Type-1 (bare-metal) and Type-2 (hosted)
- Benefits of server virtualization for both cloud providers and consumers
- Isolation between virtual machines

Virtualization in Cloud Computing: Developments and Trends (I. Odun-Ayo et al., 2017): [5]

This paper delves into the advancements and trends of virtualization in cloud computing, including:

- The use of hypervisors to create virtual machines
- Different types of virtualization (e.g., server virtualization)
- The benefits of virtualization for efficient resource utilization and isolation

This initial literature review provides a solid foundation for understanding the core concepts and current trends in cloud computing. As I continue my research, I will delve deeper into specific areas of interest and explore additional resources.

REFERENCES

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2. Maximilien, M., D. Hadas, A. Danducci II and S. Moser, "The future is serverless", , 2022, https://developer.ibm.com/blogs/the-future-is-serverless/.

3. Qian, L., Z. Luo, Y. Du and L. Guo, *Cloud Computing: An Overview*, pp. 1–16, Springer Berlin Heidelberg, 2009.

4. Jain, N. and S. Choudhary, "Overview of virtualization in cloud computing", *2016 Symposium on Colossal Data Analysis and Networking (CDAN)*, pp. 1–4, IEEE, 2016.

5. Odun-Ayo, I., O. Ajayi and C. Okereke, "Virtualization in Cloud Computing: Developments and Trends", *2017 International Conference on Next Generation Computing and Information Systems (ICNGCIS)*, pp. 24–28, IEEE, 2017.