IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
Impact Factor: 7.53
Volume 4, Issue 1, January 2024

Serverless Computing: Benefits, Challenges, and Use Cases

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Abstract: *Serverless computing has emerged as a transformative paradigm in the field of cloud computing, offering a range of benefits and posing unique challenges. This paper presents a comprehensive analysis of serverless computing, highlighting its advantages including cost-efficiency, scalability, and reduced operational overhead. The paper also delves into the challenges such as cold start latency, vendor lock-in, and security concerns. Through an exploration of various use cases, from real-time data processing to web applications, this research sheds light on the applicability of serverless computing in different scenarios. By critically examining existing systems and proposing enhancements, this paper contributes to the understanding of serverless computing's current landscape and its future potential.*

Keywords: Serverless Computing, Cloud Computing, Benefits, Challenges, Use Cases, Scalability, Cost-efficiency, Cold Start Latency, Vendor Lock-in, Security

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