Software Engineering Approaches in Cloud Computing

Type: Learning-oriented

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Abstract:
In the evolution of computer applications, Cloud application represents the state of the art in application development since it brings richness of desktop and remoteness of web applications together. Software Engineering in Cloud is the application of software engineering disciplines to cloud computing. It is about the process of designing the systems necessary to leverage the power and economics of cloud resources to solve business problems [3]. Since cloud computing emerged due to the failure of machines, it requires solid software engineering and design.

In this paper, we present the results of a systematic literature review where we tried to understand how researchers from the software engineering field are viewing the cloud computing platform. Software Engineering is playing a prominent role with presenting the state of the art in developing cloud-suitable applications, with a focus on the requirements engineering and testing of cloud-based applications. We try to implement software engineering principles in the cloud platform, starting from a basic software engineering approach, to identify and separate concerns and tasks, and then to provide both the software middleware architecture and the hardware infrastructure. By doing so, we can identify and specify the cloud middleware architecture and its deployment into a feasible infrastructure. Also, we want to propose the development process, based on hardware/software co-design, in distributed computing contexts, demonstrating its effectiveness through Cloud.

The outcome of this literature review aims to bridge the gap between software engineering, services, business and cloud computing communities by specifically addressing the challenges for software engineering in the cloud.

References:


