

## Developing a Web-Based Workflow Management System in Cloud Computing Platforms

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**Abstract :** Cloud computing is the innovative and leading information technology model for enabling convenient, on-demand network access to a shared pool of configurable computing resources that can be rapidly provisioned and released with minimal management effort. In this paper, we aim at the development of workflow management system for cloud computing platforms based on our previous research on the dynamic allocation of the cloud computing resources and its workflow process. We took advantage of the HTML 5 technology and developed web-based workflow interface. In order to enable the combination of many tasks running on the cloud platform in sequence, we designed a mechanism and developed an execution engine for workflow management on clouds. We also established a prediction model which was integrated with job queuing system to estimate the waiting time and cost of the individual tasks on different computing nodes, therefore helping users achieve maximum performance at lowest payment. This proposed effort has the potential to positively provide an efficient, resilience and elastic environment for cloud computing platform. This development also helps boost user productivity by promoting a flexible workflow interface that lets users design and control their tasks' flow from anywhere.

**Keywords :** web-based, workflow, HTML5, Cloud Computing, Queuing System

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