

Towards realizing an adaptive database in software product line using mongoDB = Menuju realisasi adaptive database pada software product line menggunakan mongoDB

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Abstrak

The approach of software product line engineering produces multiple application variant based on their commonality and variability. We need to collect information regarding the application variants for them to have an automatically produced compatible database to conduct their business processes. In this research, we try to define adaptive database which tries to bypass the process of information collecting. Adaptive database itself is defined through combining the definition of adaptive in software product line and previous approaches which generates a compatible relational database schema for each generated application variant from software product line. To implement adaptive database in software product line, MongoDB is used. Using MongoDB, an application variant is expected to be able to directly use MongoDB database without any previous information collecting and automated generation of any properties which make a database compatible. In this research, we have implemented MongoDB for software product line using Model-View-Controller (MVC) framework with the basis of Abstract Behavioral Specification (ABS). However, we found several factors which hinder the process of having an adaptive database in the ABS MVC Framework for software product line

.....Software product line (SPL) memodelkan aplikasi dalam sebuah domain bisnis berdasarkan commonality dan variability. Berdasarkan permodelan ini, proses engineering sebuah varian aplikasi dapat diotomasi. Dalam proses engineering, proses pembuatan database dari sebuah aplikasi juga diperlukan otomasi. Salah solusi dari hal ini, adalah penggunaan adaptive database. Pada adaptive database, penyesuaian kebutuhan terkait data dari aplikasi menjadi lebih fleksibel karena dilakukan saat runtime. Teknologi yang digunakan untuk mengimplementasikan adaptive database pada SPL adalah MongoDB. Dalam implementasinya, kami menggunakan MongoDB pada sebuah Model-View-Controller (MVC) framework dengan basis Abstract Behavioral Specification (ABS) untuk memodelkan SPL. Dalam prosesnya, ada beberapa temuan yang menghambat adaptive database untuk dapat digunakan pada ABS MVC Framework.