

Otomatisasi Deployment dalam Software Product Line Engineering: PRICES-IDE dengan Pendekatan Nix dan Teknologi Lainnya = Deployment Automation in Software Product Line Engineering: PRICES-IDE with Nix Approach and Other Technologies

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Abstrak

Software deployment merupakan suatu proses yang dilakukan terhadap perangkat lunak (software) agar tersedia untuk digunakan pada suatu environment tujuan. Salah satu model pengembangan software (software development) adalah Software Product Line Engineering (SPLE) yang bertujuan mengembangkan sekumpulan variasi software dari basis yang sama. Salah satu tools pengembangan SPLE hasil penelitian lab Reliable Software Engineering (RSE) Fakultas Ilmu Komputer Universitas Indonesia (Fasilkom UI) sebelumnya adalah PRICES-IDE. PRICES-IDE merupakan sekumpulan plugin Eclipse IDE untuk mengembangkan produk software aplikasi website secara otomatis. Penelitian ini, sebagai bagian dari lab penelitian RSE, bertujuan untuk mengimplementasikan solusi deployment terhadap software aplikasi website hasil pengembangan PRICES-IDE yang sebelumnya bersifat pragmatis terhadap SPLE dan berproses secara manual. Implementasi solusi deployment ini menggunakan pendekatan teknologi sistem software deployment Nix dan teknologi lainnya agar sejalan dengan SPLE dan berproses secara otomatis. Hasil penelitian menunjukkan bahwa implementasi Nix dengan teknologi lainnya berhasil mengatasi redundansi deployment untuk produk PRICES-IDE, dan berproses lebih cepat dibandingkan solusi deployment dengan pendekatan lain serta meminimalkan usaha yang diperlukan melalui otomatisasi yang telah berhasil diterapkan.

.....Software deployment is a process to make software available to use in a destination environment. One of software development models is Software Product Line Engineering (SPLE) which aim to develop a set of software variations from the same base. One of the SPLE development tools, previously researched by Reliable Software Engineering (RSE) laboratory from Faculty of Computer Science, University of Indonesia, is PRICES-IDE. PRICES-IDE is a set of Eclipse IDE plugins for developing website application software products automatically. This research, as part of the RSE research lab, aims to implement a deployment solution for website application software developed by PRICES-IDE which was previously pragmatic towards SPLE's characteristic and processed manually. Implementation of this deployment solution uses the Nix software deployment system technology approach and other technologies to be in line with SPLE and process automatically. The results of the research show that the implementation of Nix with other technologies has succeeded in overcoming deployment redundancies for PRICES-IDE products, and processes faster than deployment solutions with other approaches and minimizes the effort required through successfully implemented automation.