GEM SYSTEM

IT projects - faster and spotless

Declarative MDA

Automatization and experience, that's GEM!

Model Driven Architecture (MDA) is nowadays a commonly used method for the company software development. The benefits of a non-platform-based development are obvious. The models can be automatically adapted into models with a lower abstraction level and the code itself. The time and financial costs for a new application development are lower. The integration of existing and new technologies is simple and the resulting gain from infrastructure investment is significant. Besides that, the classic MDA has limited use options and is burdened by various operational issues. These can be overcome by the innovative MDA approach.
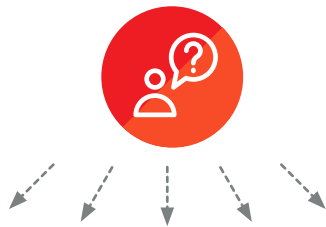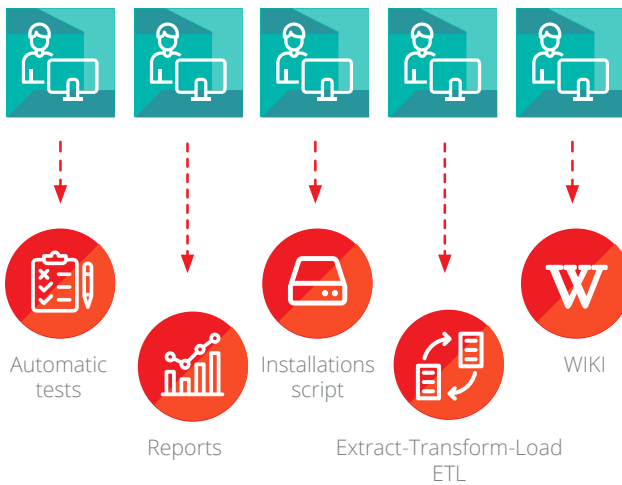
CASE STUDY

The process comparison of change implementations into individual components within the framework of a classic access via the declarative MDA

EARLIER

Request for a change

The change is provided manually for each component

- Automatic tests
- Reports
- Installations script
- Extract-Transform-Load ETL
- WIKI

NOW

Request for a change

Model Driven Architecture

Automated process of change implementations

- Automatic tests
- Reports
- Installations script
- Extract-Transform-Load ETL
- WIKI

A quick look at the differences

The classic approach requires a dozen of partial steps and the creation of a new code on several locations just in order to finish one single operation like adding a column into a chart. The declarative MDA solves this task with only one attribute into the respective model object. The generated code is immediately checked by an automatic test which already complies with the updated model.

PROVIDED SERVICES

Declarative MDA for BI from GEM!

The flexibility requirements of company information systems are getting constantly higher. The systems need to react to changes in various areas, such as the legislation, portfolio or the structure of business partners. Thus, the consistency between set models and their generated outputs is a significant challenge (source codes, documentation, testing scripts a. o.). It requires a detailed knowledge of the exact compliance with all steps during the change implementation. That can significantly raise the risk of mistakes and possible functionality issues with the whole system.

GEM System thus prioritises a high level of simplification and automatization of the MDA development process. Thanks to the declarative approach, the application can work with one single layer of general metadata which incorporates all needed outcomes (such as automatic tests, documentation, data codes a. o.). These are generated automatically.

GEM System uses its own platform, the so called GDIS - GEEM Data Integration Suite in order to administrate the general model of projects, like the implementation of data storage or BI solution. From this model, installation scripts of database objects can be generated automatically. The same counts for ETL processes which provide the data storage filling. The model also enables automatic tests which can be run on CI (Continuous Integration) server and a significant portion of the project documentation, shared via the Wiki Confluence enterprise.

GEM System uses advanced output generators. Thanks to the general model and sophisticated templates, they can generate all needed project outputs. When generating them, one can create documentation or source codes in the according structure. Moreover, the generated code can be run directly on the database server. Besides that, one can communicate with the interface of the web services.

The declarative approach enables a highly efficient development of both the prototype and the final solution, as well as the flexibility regarding any further changes. The reference project of the BI and data storage creation for a client from the insurance business is an evident example of the declarative approach qualities. In contrary to the classic solution, it enables relatively complex interventions in a much faster, cheaper and secure way, including the documentation update of the whole solution. From the business point of view, the company with a declarative MDA automatically receives significant benefits. Those include a guarantee of updated data a documentation, minimal mistake risks thanks to the automatic tests, as well as lower requirements for the user skills. Simple changes in the system can be done even by business analysts themselves. Thus, the declarative MDA currently offers one of the most suitable tools for the implementation of complex solutions not exclusively in the business intelligence, but in other areas, too.

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