Continuous Integration

Reduce development and feedback cycle times
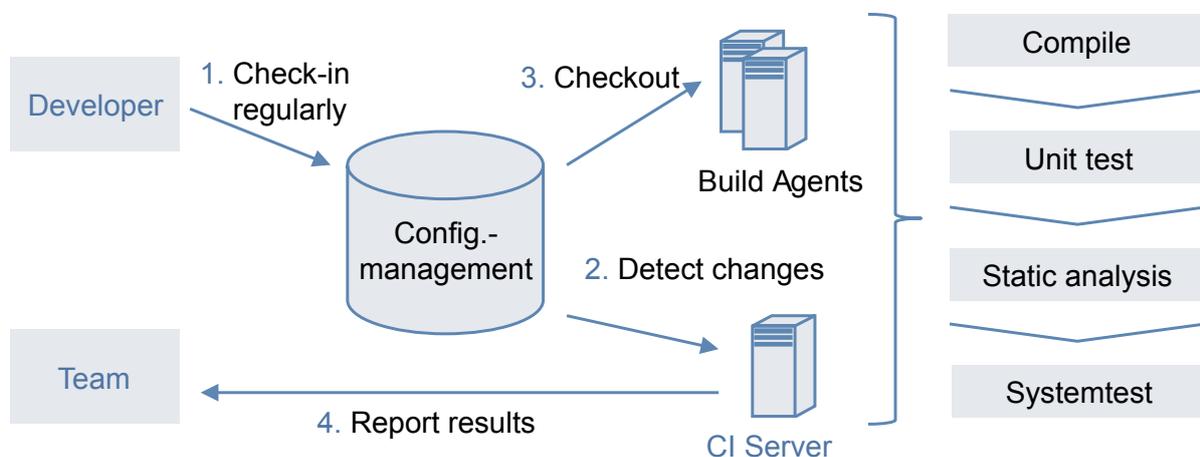Increase product quality

Summary

The practice of Continuous Integration (CI) aims at developing complex software systems in a timely and cost-efficient fashion across teams of varying sizes. Continuous Integration provides rapid and automated feedback regarding correctness of a developed product for every change that is made in the software.

Background

Companies are under pressure to develop more and more complex products and at the same time deliver them faster and cheaper. This causes challenges when developing with traditional process models (V-Model, Waterfall Model) like for example the "big bang integration" or the management of constantly changing requirements. Iterative approaches address risks in the release process with shortened development cycles, rapid and frequent feedback, and by focusing on working software at all times.

Approach

Continuous Integration requires that during development all software modules are regularly integrated into a shared system and to make sure that the integrated system can be built without errors. Ideally this happens for every change made to any part of the software. With this approach interface compatibility between modules is verified and changes that introduce incompatibility are detected early. Using a high degree of automation this task can be conducted time- and cost-efficient. The basic build process can then be expanded to include testing, static code analysis, traceability, and reporting in the Continuous Integration system. This way an insight into correctness and quality of the software can be gained for every version of the code.

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Results

- Faster development cycles through automation of time consuming manual tasks
- Reduced release risk through predictable and dependable development processes and reproducible results
- Complete and up-to-date process documentation as well as auditable processes
- Automatic feedback about quality for every change in the software
- High quality software releases
- Encouragement of cross functional teams (development, test, support, and operations)
- Identification of inefficiencies and cost factors

Our Offer

ANALYSIS OPTIONS SOLUTION MANAGEMENT IMPLEMENTATION

1 2 3 4 5

START OF PROJECT | COMPETITIVE ADVANTAGE THROUGH ADDED VALUE

1. Experienced INVENSITY consultants analyze the initial situation
2. INVENSITY experts create options and a basis for decision-making
3. Customer-specific solutions are defined together through project plans and work packages
4. Experienced INVENSITY consultants manage the implementation and create specific innovation
5. Interdisciplinary INVENSITY teams realize the customer project onsite

Refferences

INVENSITY successfully supported customers in conception, introduction, maintenance and optimization of Continuous Integration tooling and processes:

- Workshops about agile development, processes and team values
- Operational tool implementation and optimization as well as training of employees
- Definition of development processes, introduction and coaching of best practices using continuous integration
- Conception of CI infrastructure (decentralization, load distribution and balancing), automation of the build tool chain, and backup concepts
- Adaptation of existing tools to customer specific requirements and processes
- Integration into the existing tool environment, development of interface tools

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