

## CASE STUDY

# Automated code review process

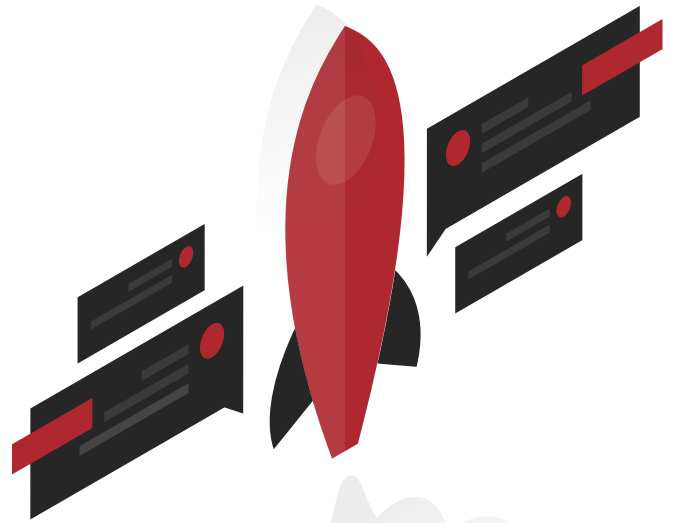
with Jira Service Management, Insight and Scriptrunner



## ABOUT THE CUSTOMER

As the software house of the Raiffeisen Bankengruppe Austria, Raiffeisen Software GmbH is shaping the banking business of the future with their innovative IT solutions. Developing state-of-the-art technology, RSG works closely with their customers through agile development methods – Usability tests, Scrum, Kanban, Design Thinking & Co. – to offer them the best possible solution. With 865 employees at 4 locations, RSG is one of the largest IT service providers in Austria.

**Raiffeisen  
Software**



## OBJECTIVES

In order to integrate essential business processes with the main corporate agile methodology and its software, automated and independent processes are needed.

This case study shows how autonomous code reviews, within the Jira instance, can be created, implemented, assigned, and conducted in order to provide the highest code quality possible within the company, so that teams can review each-other.

This project has been implemented via the usage of Jira Service Management, Insight, and ScriptRunner.



## SOLUTIONS

By mapping the code reviews within the Jira Service Desk, the entire process can be carried out and monitored automatically for each developer team.

First, the number of teams necessary for the code review is specified in Insight. This number is then automatically selected from the list of possible developer teams. During the process, a task will be created in the respective project of the team.



## OVERVIEW

### BENEFITS:

- Randomly assign teams to tasks and inform them automatically
- Notify developers when a review is available in their programming language
- Convert findings into Jira issue types and store them in the team backlog
- Streamline the entire communication process using one tool
- Ensure transparency for all participants



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As RSG it is important for us to provide high quality solutions. Code reviews are one way to ensure this. There was a lot of coordination work to be done. In order to work more efficiently, we have now mapped the process in Jira Service Desk. This makes many things easier and fully automated.

- For example, a defined number of teams is now randomly assigned to a task and informed.
- The developers (reviewers) are now notified when a review is available for them (their programming language).
- Findings, which are found in the review, can be converted into appropriate Jira issue types afterwards and stored in the corresponding team backlog.

Another significant advantage is the fact that the entire communication process is now streamlined using one tool and is transparent for all participants.

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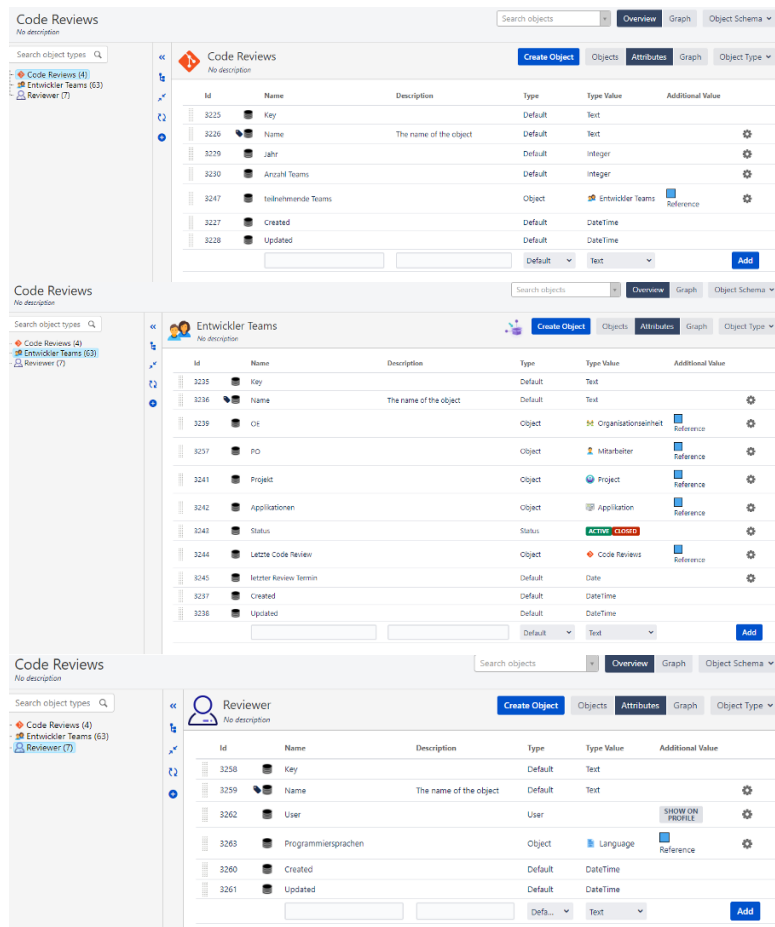


Fig. 1: New Insight Schema for Code Reviews is created in Jira

## 3. Import JSON file into the Schema

The script functions as a Job and is triggered on the first day of each month. The Job searches within the Jira Insight application to create a first sketch of all developer teams with their respective attributes, which may be mapped inside various schemes. The teams must have more than two developers in order to have the appropriate properties to conduct the needed code reviews.

The newly created JSON file is imported within the Insight Object Type “Entwickler Teams” in order to be stored and successfully mapped with the appropriate attribute (see Fig. 2).



## PROOF OF CONCEPT

### 1. Store information in JSON File

Firstly a JSON file, which contains the structure “Name, Organization, Product Owner, Project, Applications, Status”, is created and locally saved within the Atlassian Jira Server instance.

### 2. New Insight Schema

To properly store the information within the JSON file, a new Insight Schema is created in Jira (see Fig. 1).

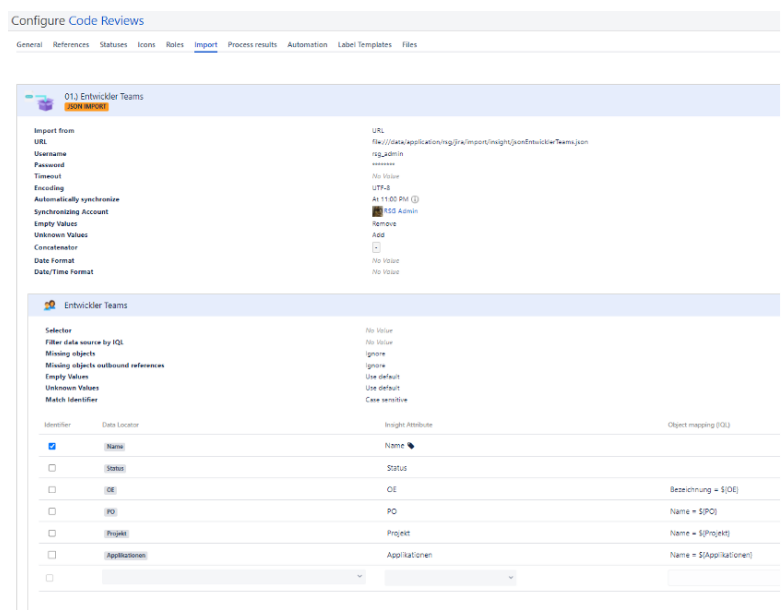


Fig. 2: A new JSON file is imported within the Insight Object

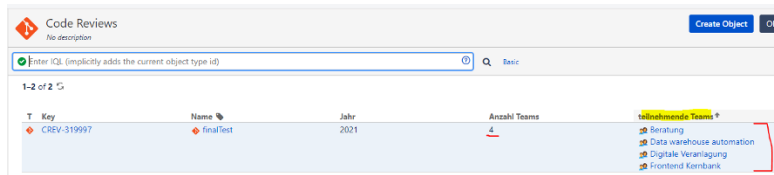


Fig. 3: Assigned teams in new Code Review Insight Object

## 5. Automation script creates tasks

After the Insight Object is created, an Insight Automation script runs in the background and creates a new task within each of the randomly selected projects, pre-filling various custom fields in order to retain and enhance the overall data quality.

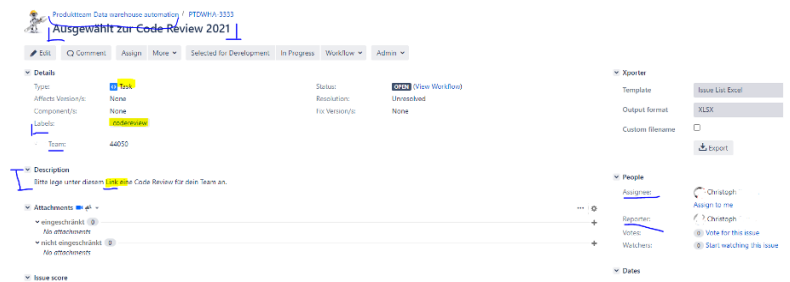


Fig. 4: New tasks created automatically through a script

## 6. New ticket & Code Review issue

A new Jira SD ticket is created with the defined custom values. At the same time, the Code Review Issue is created and the approvers from the Reviewer Object Type (in Insight) are chosen from the selected programming language and automatically assigned to the "Approvers" custom field. This logic has been implemented and built as a PostFunction within the appropriate workflow transition. Two of the inserted approvers must approve the issue. As a last step, the two approvers are then automatically set as reviewers.

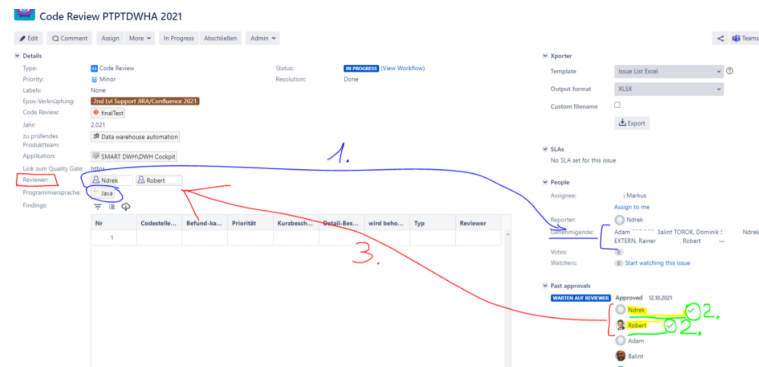


Fig. 5: Code reviewers are automatically selected



Within another specified workflow transition, the custom field "Due Date" is set as required. Thus, only if the issue was closed with the resolution "Done" or "Ready", the insight attributes "Last Review Date" and "Last Code Review" are filled with the respective "Developer Team" and the operation timestamp.



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