

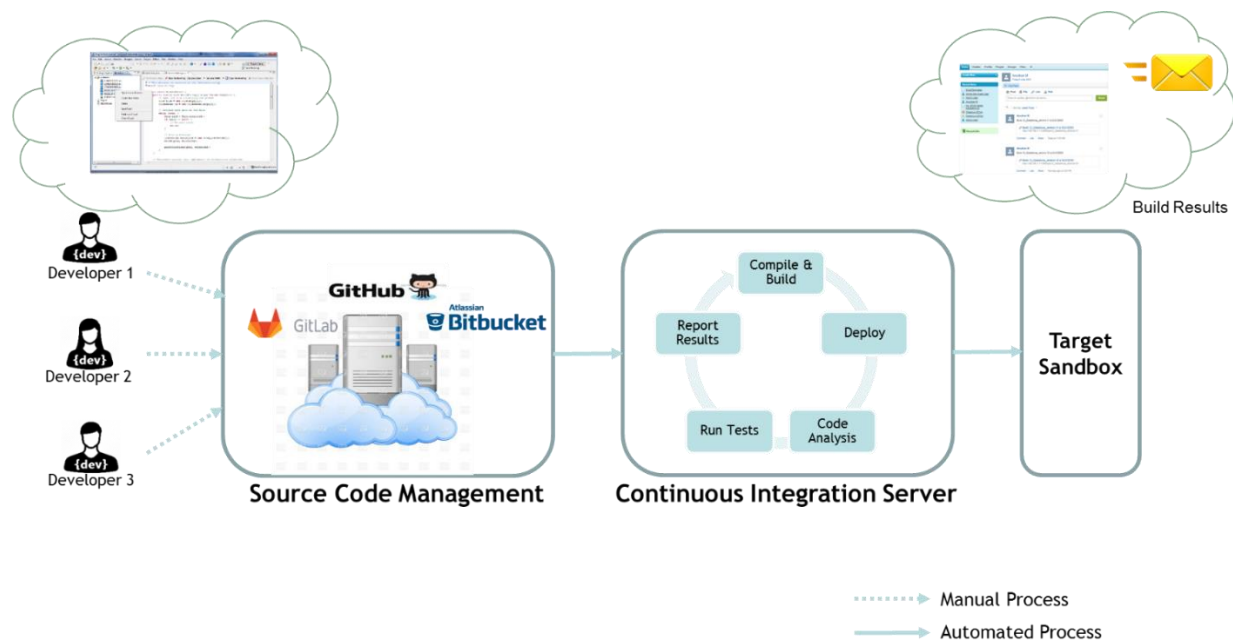
Implementing
**Continuous
Integration**

in Salesforce using Jenkins

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Salesforce & Continuous Integration - Overview

Due to Salesforce evolvement in recent years, each and every organization that uses Salesforce undergoes frequent customizations (including manual changes), builds and migrations between environments. This causes considerable efforts and cost. To decrease the fore-mentioned factors in addition to increase the quality of the deliverable, Continuous Integration can be used.

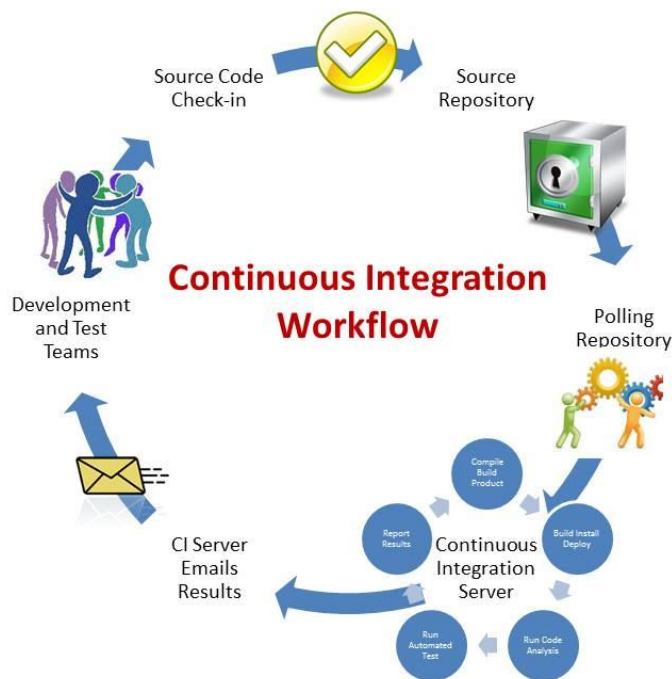


Continuous Integration – Business Values

- 1) Faster delivery time to Market
- 2) Higher Quality - Discover conflicts and defects early, thus increases quality of application
- 3) Monitor deployment status
- 4) Low Deployment Risk during production rollouts
- 5) Improves (software development teams)
 - a. Speed
 - b. Productivity
 - c. Sustainability
- 6) Reduces
 - a. Operational cost
 - b. Time to market
 - c. Production incidents & Defects
 - d. Overhead effort

Continuous Integration – Process Flow

Jenkins server polls bit bucket at regular intervals to check if there are changes in the source repository. If there are changes, the ANT migration tool will retrieve the changes and deploy the same into the target organization. Once deployed, notification on success or failure can be sent via email or any other plugins installed in Jenkins. Salesforce plugins are available to send the notification as chatter results.



Continuous Integration – Key Benefits

- 1) Run Tests in the real world: Increases code coverage, reduce code review time
- 2) Automated Deployment: Decreases manual intervention and mistakes
- 3) Self-Testing & Fast Builds
- 4) Frequent Commits
- 5) Code consolidation
- 6) Test result availability

Prerequisites

The following software products shall be used to implement CI in Salesforce

- 1) Jenkins
- 2) Apache ANT
- 3) Git – Central code repository
- 4) Eclipse

Practice to follow – for seamless delivery

- 1) For a project or a release, maintain only one single source of repository
- 2) While building packages, automate the process by making use of ANT scripts
- 3) Automate the testing if possible to run the sanity rather than manual intervention
- 4) Automate the deployment into target organization using ANT scripts
- 5) Notify the intended stake holders about the status of deployment, for debugging if an issue occurs