

Introduction to CTIP

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Continuous Test & Integration Platform

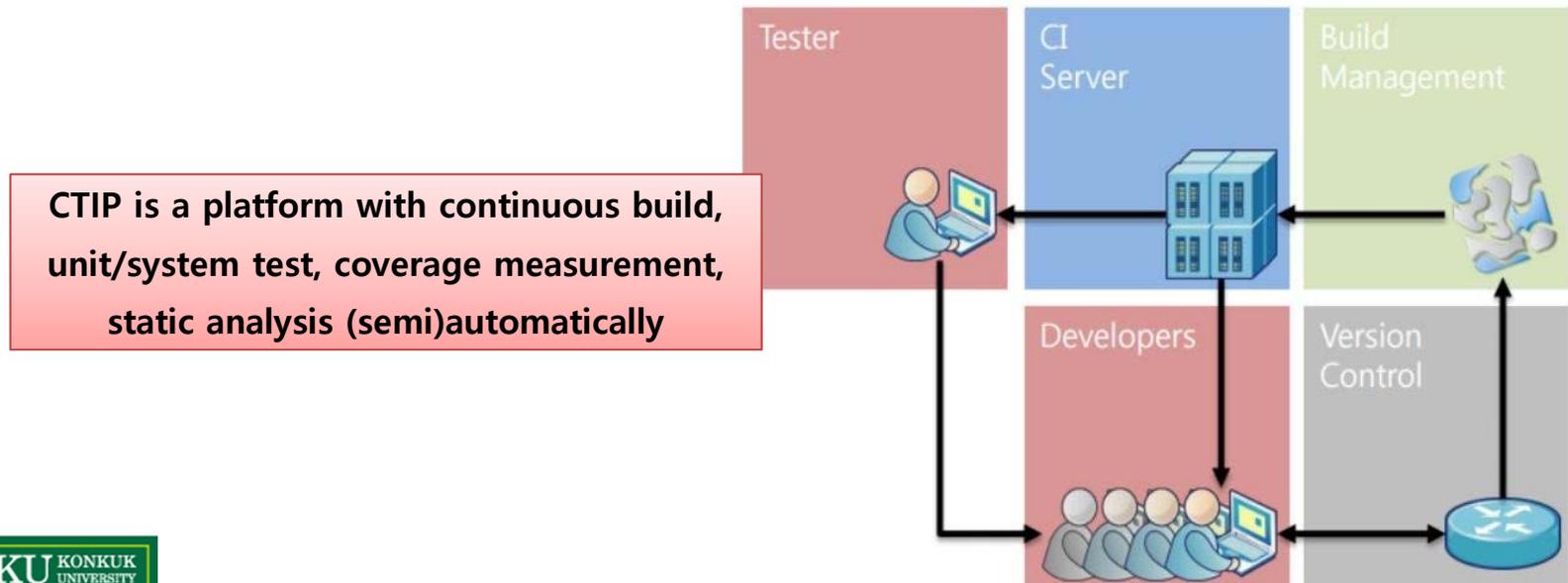
Continuous integration is a software development practice where members of a team integrate their work frequently, usually each person integrates at least daily - leading to multiple integrations per day. Each integration is verified by an automated build (including test) to detect integration errors as quickly as possible.

[Continuous Integration: Improving Software Quality and Reducing Risk (book)]

As soon as the work on a task is complete, it is integrated into the whole system. After any such integration, all the unit tests in the system must pass.

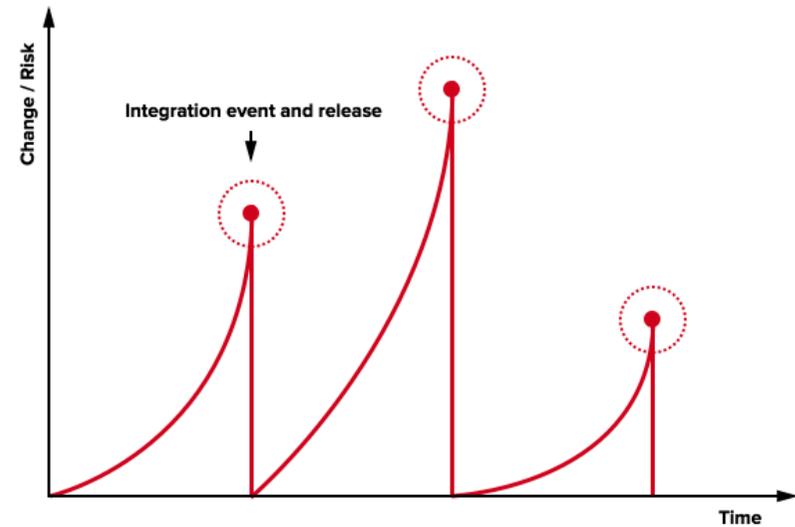
[Software engineering 10th (book)]

- Continuous test & integration platform (**CTIP**)
 - Continuous integration + continuous test

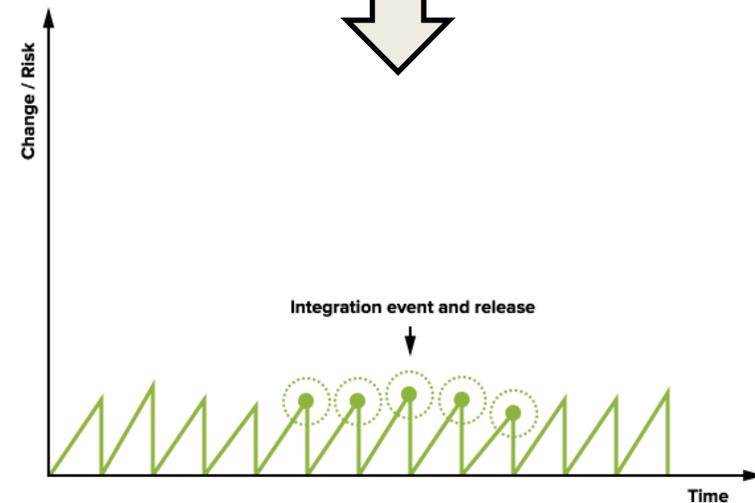
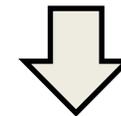


Continuous Test & Integration Platform

- Benefits of using CI
 - Reduced integration risk
 - Higher code quality
 - The code in version control works
 - Reduced friction between team members
 - The quality of life improvement for testers
 - Less time deploying
 - Increased confidence and morale
- Pitfalls
 - Increased project maintenance overhead
 - Hardware/Software costs

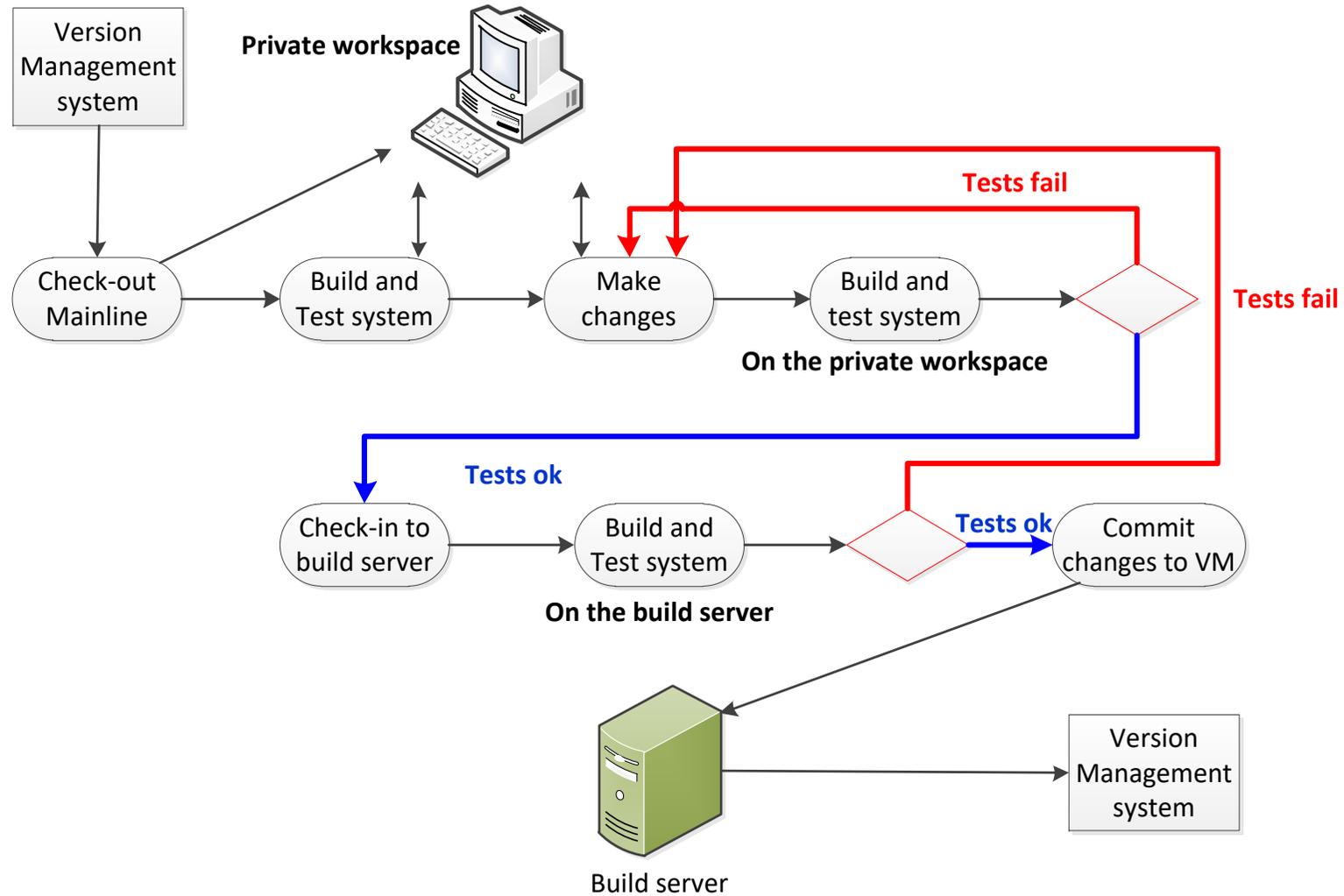


Traditional Integration



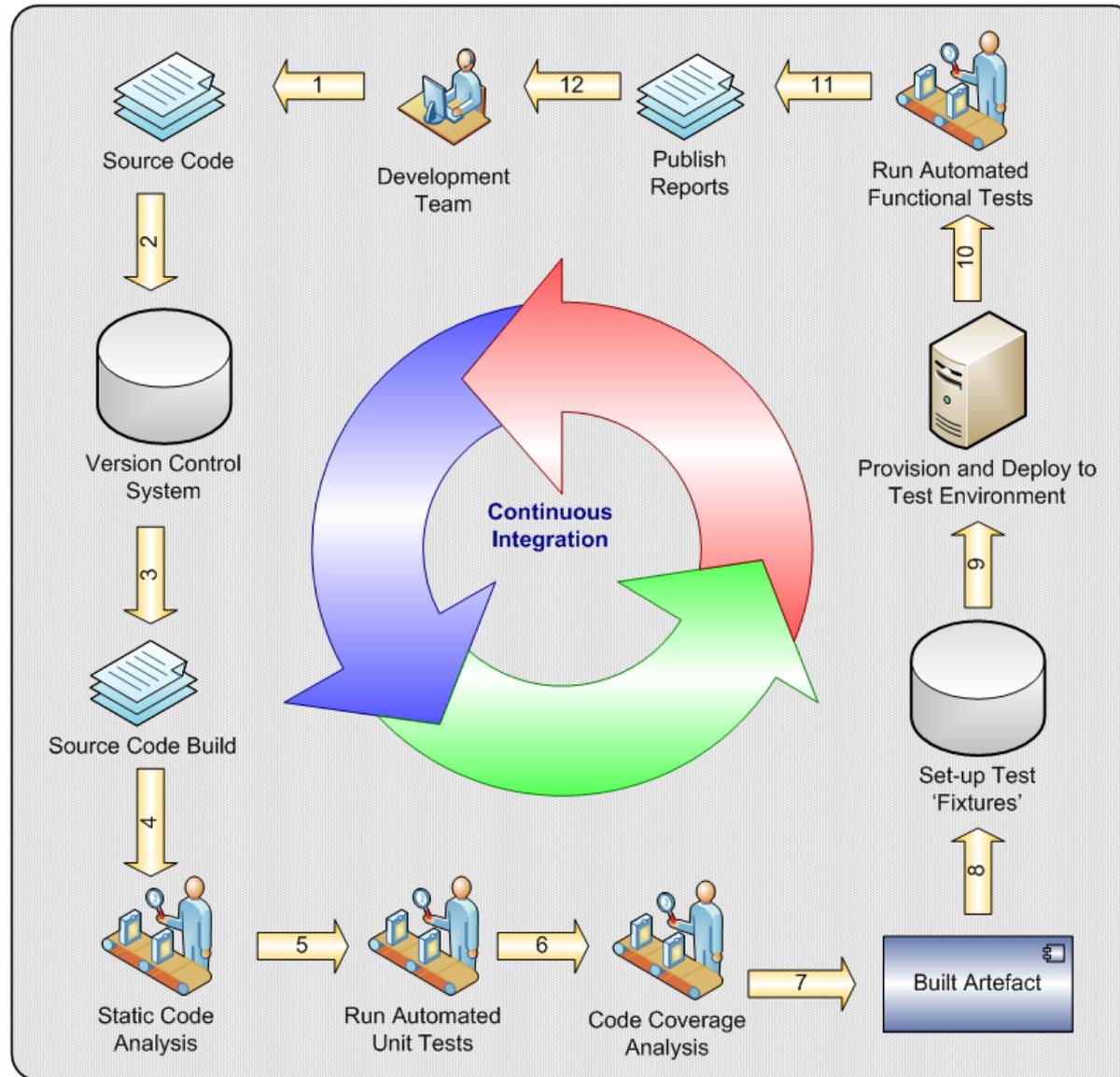
Continuous Integration

Continuous Integration Process

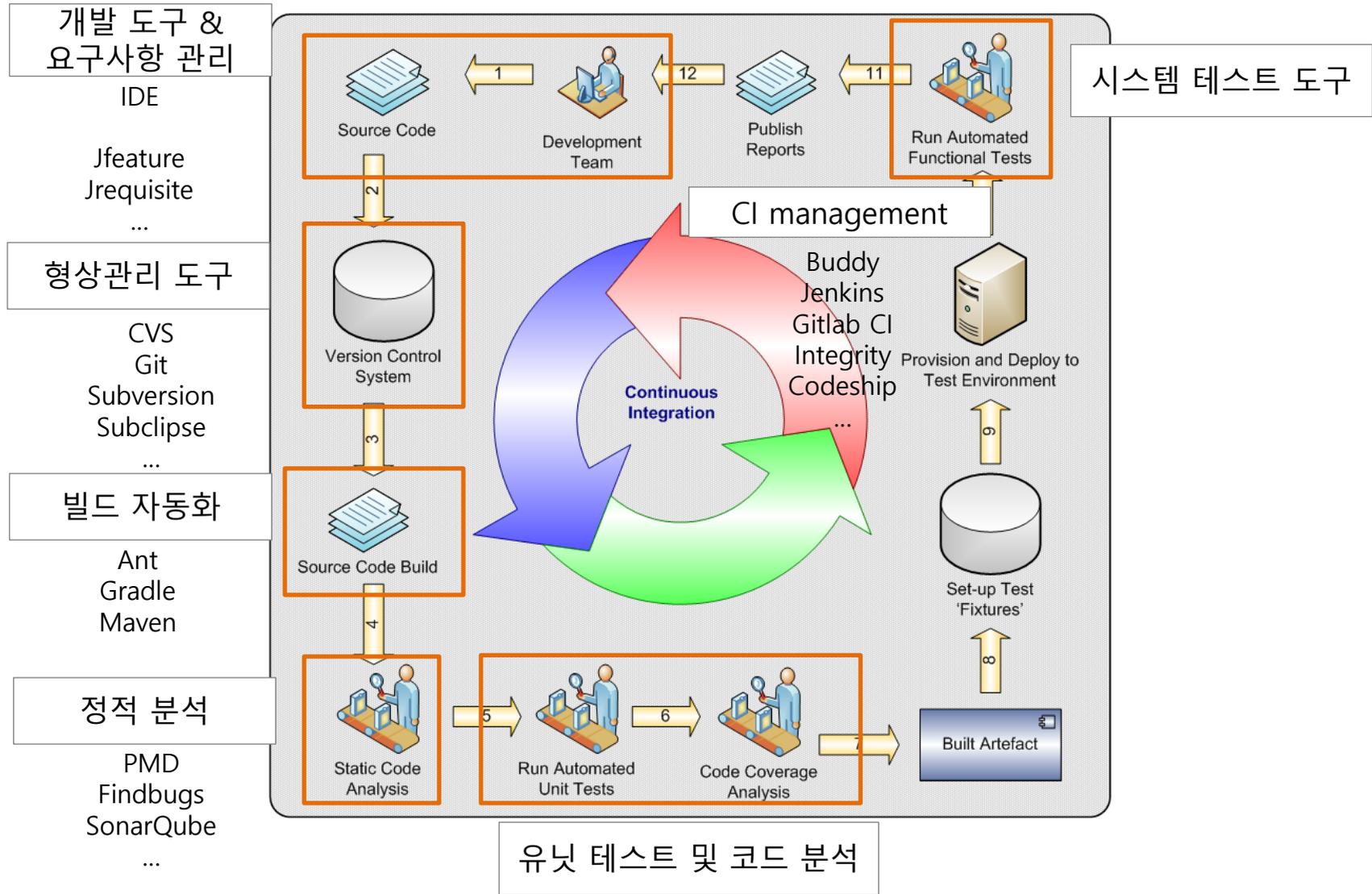


[출처] Software Engineering 10th Edition

Continuous Test & Integration Platform Example



Continuous Test & Integration Platform Example



CTIP EXAMPLE

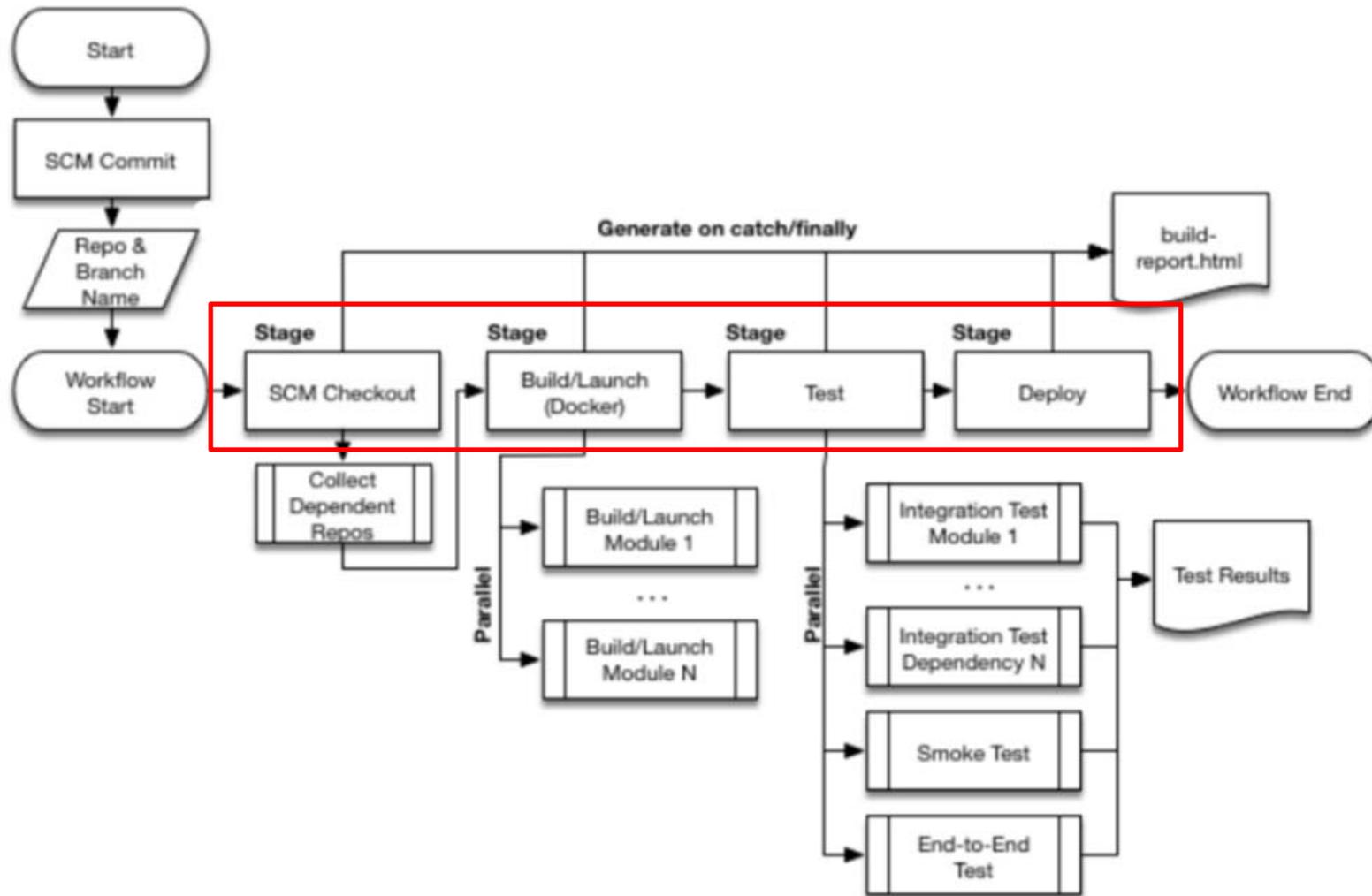
Tools for CTIP

- <https://www.swbank.kr/helper/tool/toolMain.do>

Tool	Name
Project Management	OpenProj, GanttProject, Mylyn, Hsarepoint,
Quality Management	Splint, PMD, JDepend, Checkstyle,
Requirement Analysis & Management	Jfeature, JRequisite,
Design & Modeling	StarUML, VioletUMLEditor, ArgoUML,
Configuration Management & Version Control	Trac, Jenkins (Hudson), Maven, CVS, SVN, Bugzilla, Mantis, TortoiseCVS, Mercurial, Cruise Control, Git, Ant, RedMind, Berkshelf, Perforce, Nagios, Sensu, Vagrant, Foodcritic,
Implementation	Eclipse, Valgrind, Netbeans,
Testing	TestLink, CPPUnit, OProfile, HttpUnit, EMMA, Jmeter, Nunit, SoapUI, FitNesse,
Static Analysis	Coverity, dart, sparrow, cppcheclipse, Resort, sonar, HP Fortify Static Code Analyzer, Checkmarx CxSuite, Syhunt Sandcat, Parasoft (Jtest, dotTEST, ...), VeraCode Static, Coverity Static Analysis,

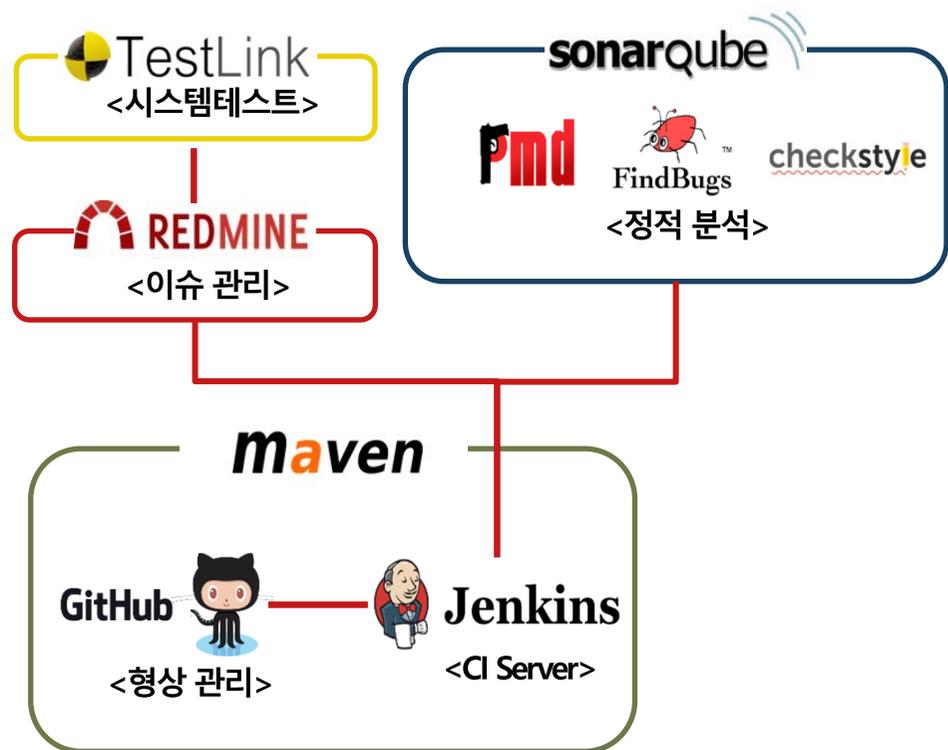
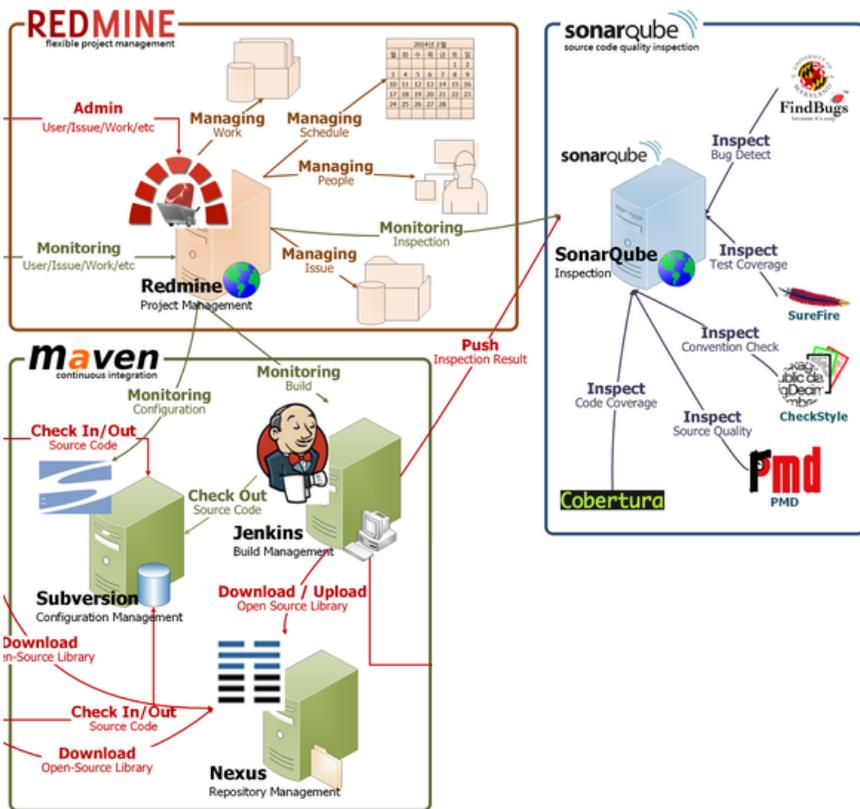
CTIP Example

Jenkins Workflow

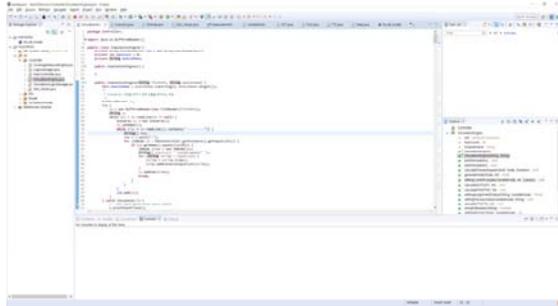


SCM: Source Code Management

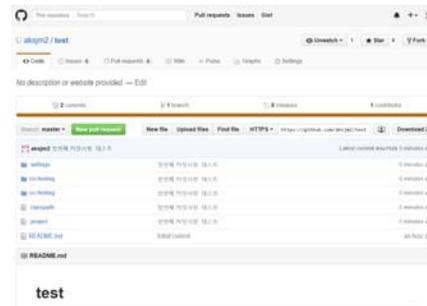
CTIP Example



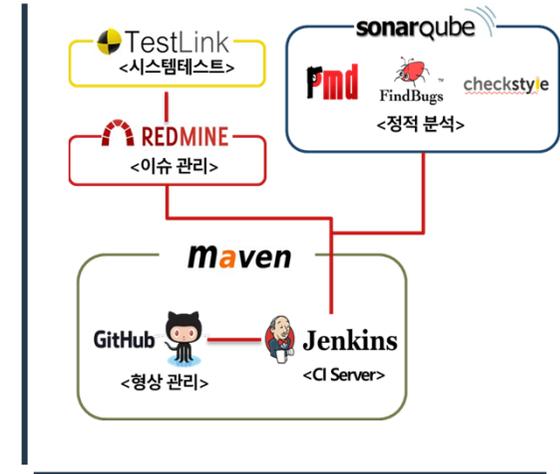
CTIP Example



코드 수정 후 푸시- Eclipse



형상 관리 - Github



자동 빌드 및 unit test 수행 - maven

빌드 및 unit test 결과 확인 - Jenkins