

# SOFTWARE VERIFICATION

Redmine & Jenkins 및 빌드 환경

**TEAM 1**

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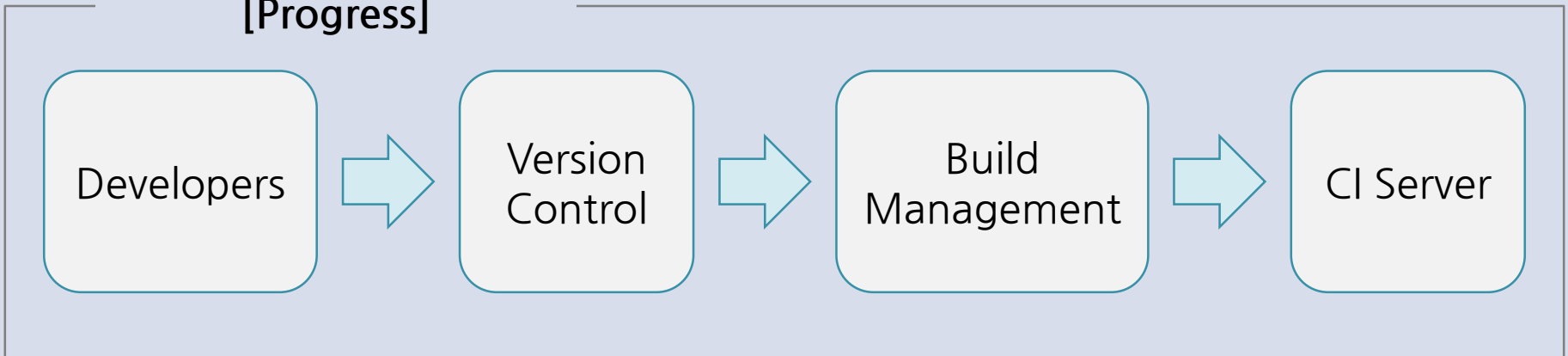


**1** CTIP

# 1. CTIP

- Continuous integration
- 협업중인 개발자들 끼리 각자의 코드를 통합할 때 발생하는 문제를 예방하기 위해 도입되었다.
- 개발자들이 문제점을 빠른 시일 내에 알게 되어 고칠 수 있고, 한 번의 test code 작성으로 개발 중 해당 부분에 대해 테스트를 언제든지 진행 할 수 있다.

## [Progress]



# 1. CTIP

## 소프트웨어의 개발

- 소프트웨어의 개발 분류
  - 기능적 요구사항
    - 클라이언트가 요구하는 프로그램의 동작
    - 요구사항에 따라 정의됨
    - Requirement Coverage Tool로써 검증 가능
  - 비기능적 요구사항
    - 기능적인 측면 이외에도 성능, 보안, 확장성, 변화 가능성 등
    - 개발자가 직접 정의함
    - Source Code Static Analysis Tool로써 검증가능
- 일반적으로 비기능적 요구사항이 다루기 더 어려움
  - 고객과 협의하는 대상이 아니다.
    - 하지만 이 기능들이 정의 되어야만 기능적 요구사항 구현이 가능하다.

# 1. CTIP

## Requirement Coverage Tool

- 요구사항 관리 도구
- 요구사항들을 기록하고 이들을 Test case와 매칭하여 프로세스를 단순화 시킴
- 특징
  - Junit의 Test Case 메소드와 통합하여 관리가능
  - 요구사항의 수정이 생겼을 때, 즉시 View를 제공하여 빠른 편집이 가능
  - 요구사항 반영 여부를 Coverage 형태로 쉽게 확인 가능



## 2

# Redmine & Trello

- 1) Redmine?
- 2) Redmine 설치
- 3) Redmine 사용법
- 4) Trello

## 2. Redmine & Trello

### Redmine?

- Redmine은 오픈소스 프로그램으로 웹 기반의 프로젝트 관리와 버그 추적기능을 제공하는 도구
- Ruby on Rails 프레임워크로 개발
- 플랫폼과 데이터베이스와 관계 없이 이용 가능





## 2. Redmine & Trello

### Redmine?

- 다중 프로젝트 지원
- 유연한 역할기반 접근제어
- 유연한 이슈추적 기능
- 간트 차트와 달력기능 제공
- 형상 관리 소프트웨어와 통합
- 플러그인 기능 지원

## 2. Redmine & Trello

### Redmine 설치

- Redmine 다운로드

<https://bitnami.com> → download 클릭

The screenshot shows the Bitnami website interface. The main banner features the text "The easiest way to deploy applications to 1&1 Cloud Platform" with a "1st month of FREE usage" button. Below the banner is a row of application icons, including Redmine, which is highlighted with a red box. A tooltip for Redmine v3.2.1 is visible, containing a "LAUNCH NOW or Download" button. The website also displays "Over 1 million apps deployed per month" and "Bitnami makes it incredibly easy to deploy apps with native installers, as virtual machines, or in the cloud." The browser's address bar shows "https://bitnami.com/stack/redmine".

## 2. Redmine & Trello

### Redmine 설치

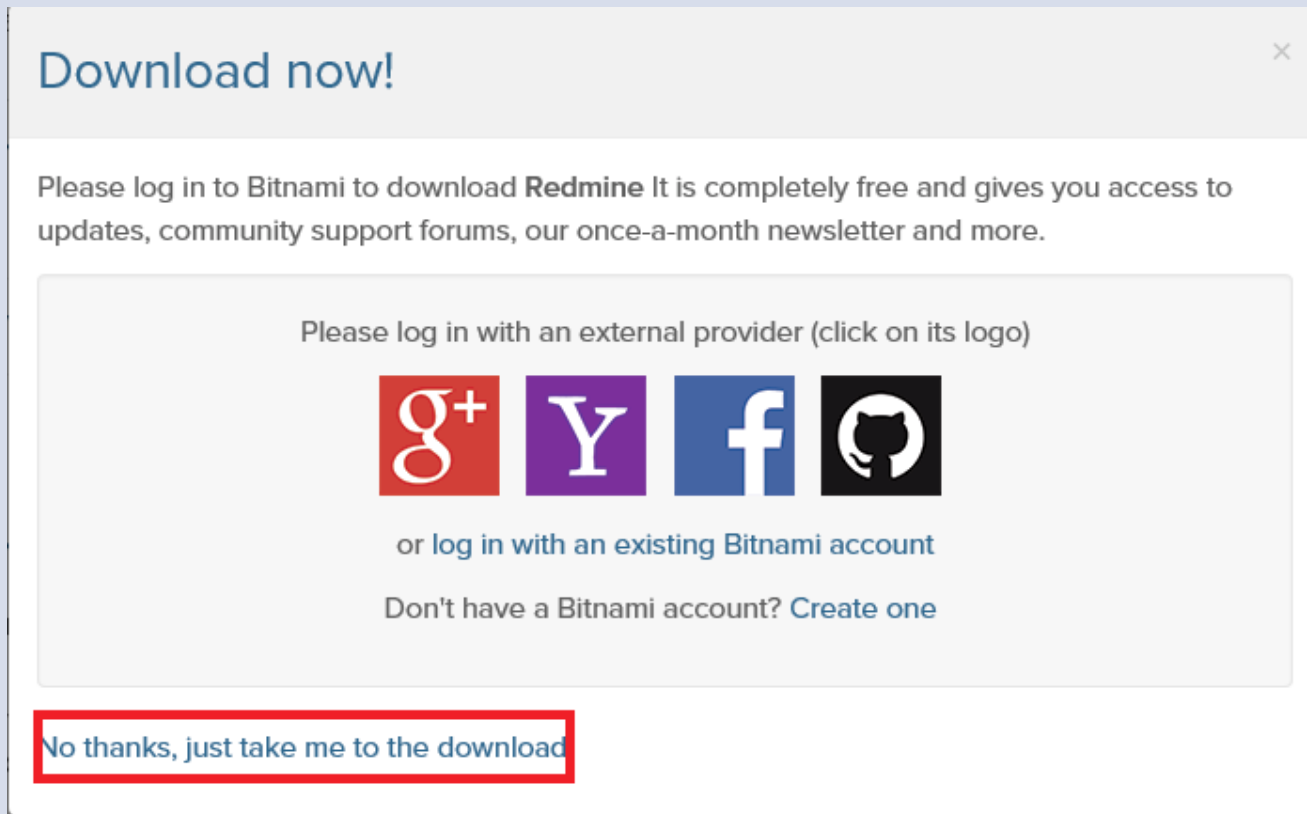
- LOCAL INSTALL → O/S에 맞춰 다운로드

The screenshot shows the Bitnami website for Redmine. The page is titled "Redmine" and includes a navigation menu with "applications", "cloud", "enterprise", "support", and "what is bitnami?". The main content area features a "Redmine" logo and a "Follow" button. Below the logo, there is a description of the Bitnami Redmine Stack and a list of "Key features of Redmine include". On the right side, there are three main options: "DEMO IN BROWSER", "LAUNCH IN THE CLOUD", and "LOCAL INSTALL". The "LOCAL INSTALL" option is highlighted with a red box and includes a "DOWNLOAD REDMINE INSTALLER" section with a link to "bitnami-redmine-3.2.1-0-windows-in..." and a "Version 3.2.1" label. Below this, there are "OTHER OPTIONS" including "All Redmine Installers", "Redmine Virtual Machines", and "Redmine Docker Container (beta)". At the bottom right, there is a "Redmine Ratings" section showing a 4.5 out of 5 stars rating.

## 2. Redmine & Trello

### Redmine 설치

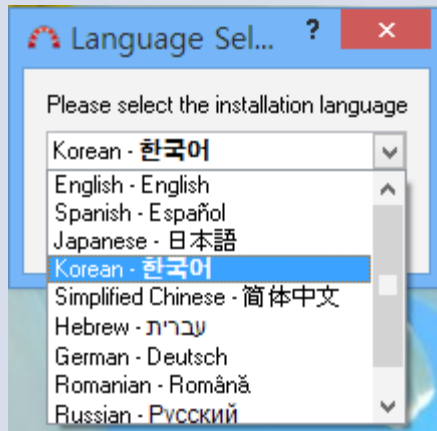
- No thanks, just take me to the download



## 2. Redmine & Trello

### Redmine 설치

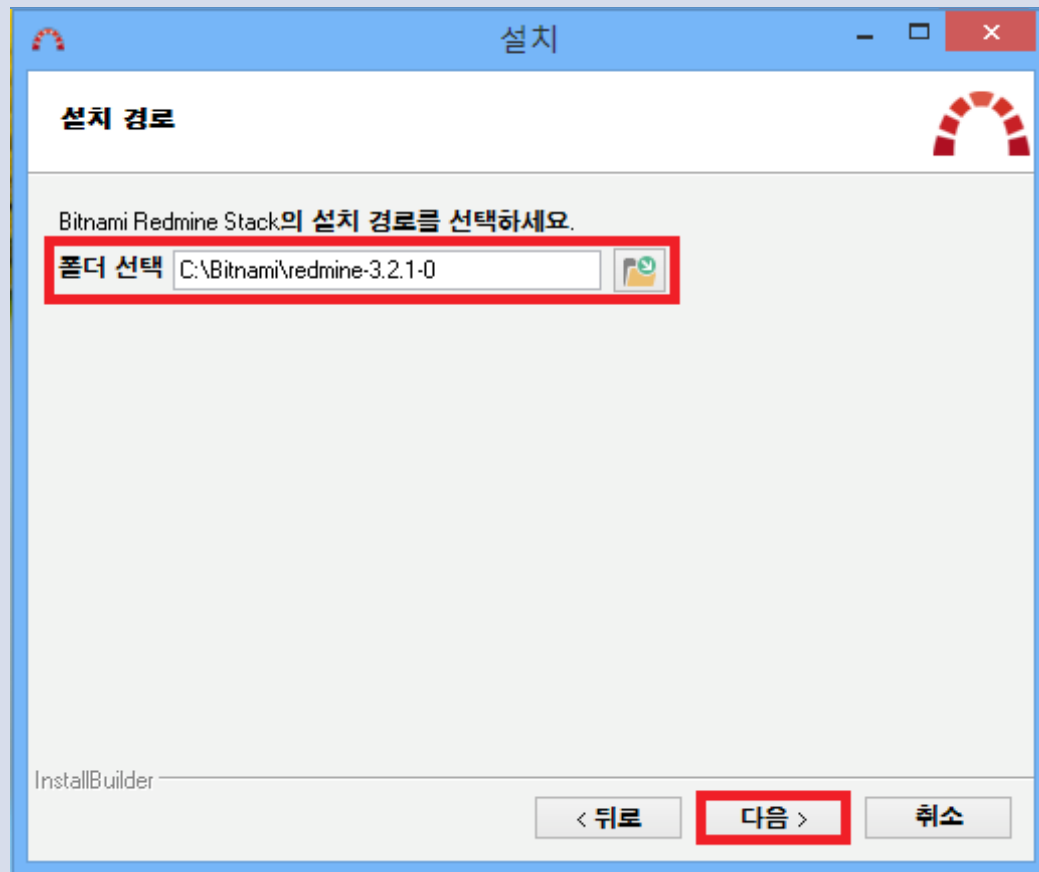
- exe파일 더블클릭 → 언어 설정 → 다음버튼



## 2. Redmine & Trello

### Redmine 설치

- 원하는 구성요소 선택 후 다음 -> 설치 경로 선택 후 다음



## 2. Redmine & Trello

### Redmine 설치

- Admin 계정 생성 – Redmine 프로젝트를 생성하거나 관리하는 관리자 계정을 생성
- 관리자 이름작성 →  
이메일 주소 작성 →  
관리자 계정으로 생성할 ID작성 → 비밀번호 작성  
→ 다음

설치

#### Admin 계정 생성

Bitnami Redmine Stack 관리자 계정을 생성합니다.

이름

이메일 주소

로그인 계정명

패스워드

패스워드를 재입력

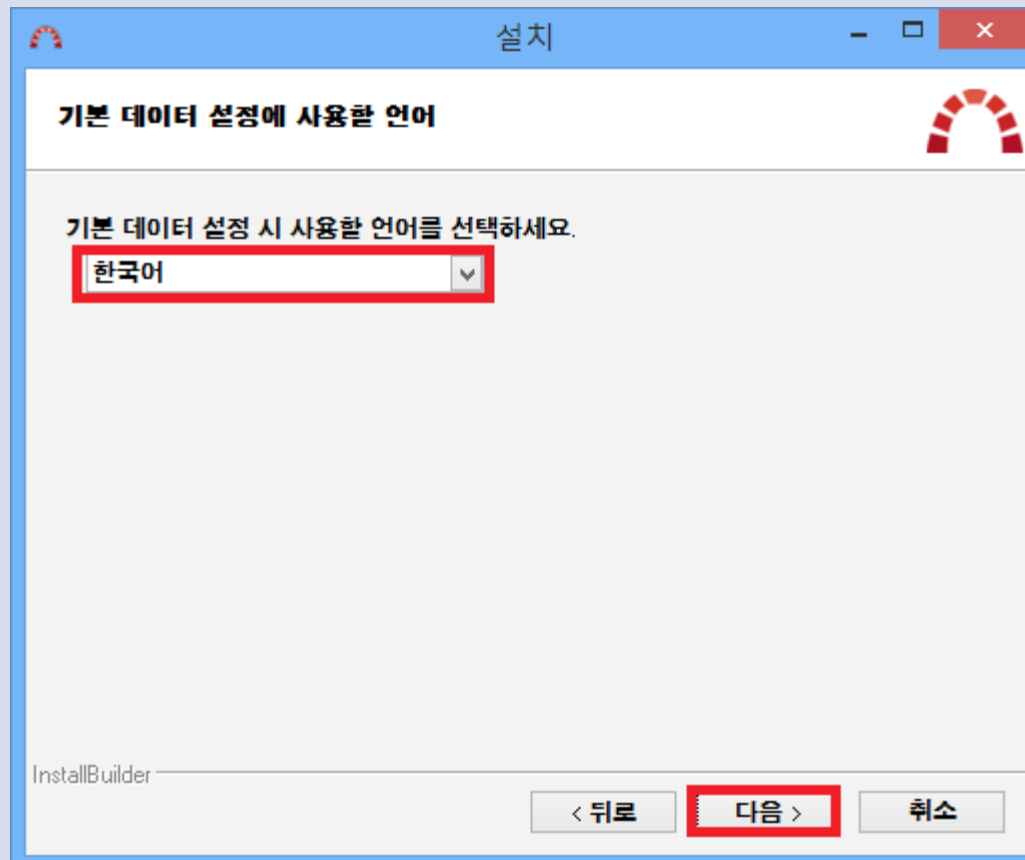
InstallBuilder

< 뒤로 **다음 >** 취소

## 2. Redmine & Trello

### Redmine 설치

- 기본 Redmine 실행 시 사용할 언어 선택

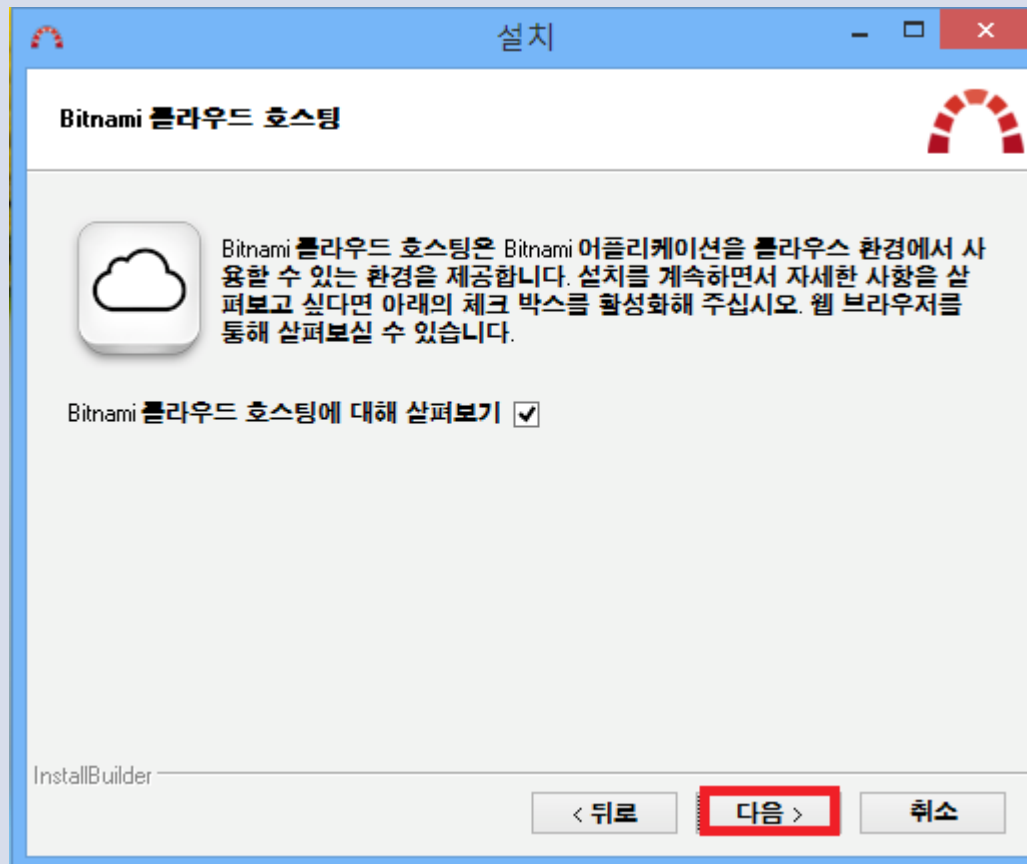




## 2. Redmine & Trello

### Redmine 설치

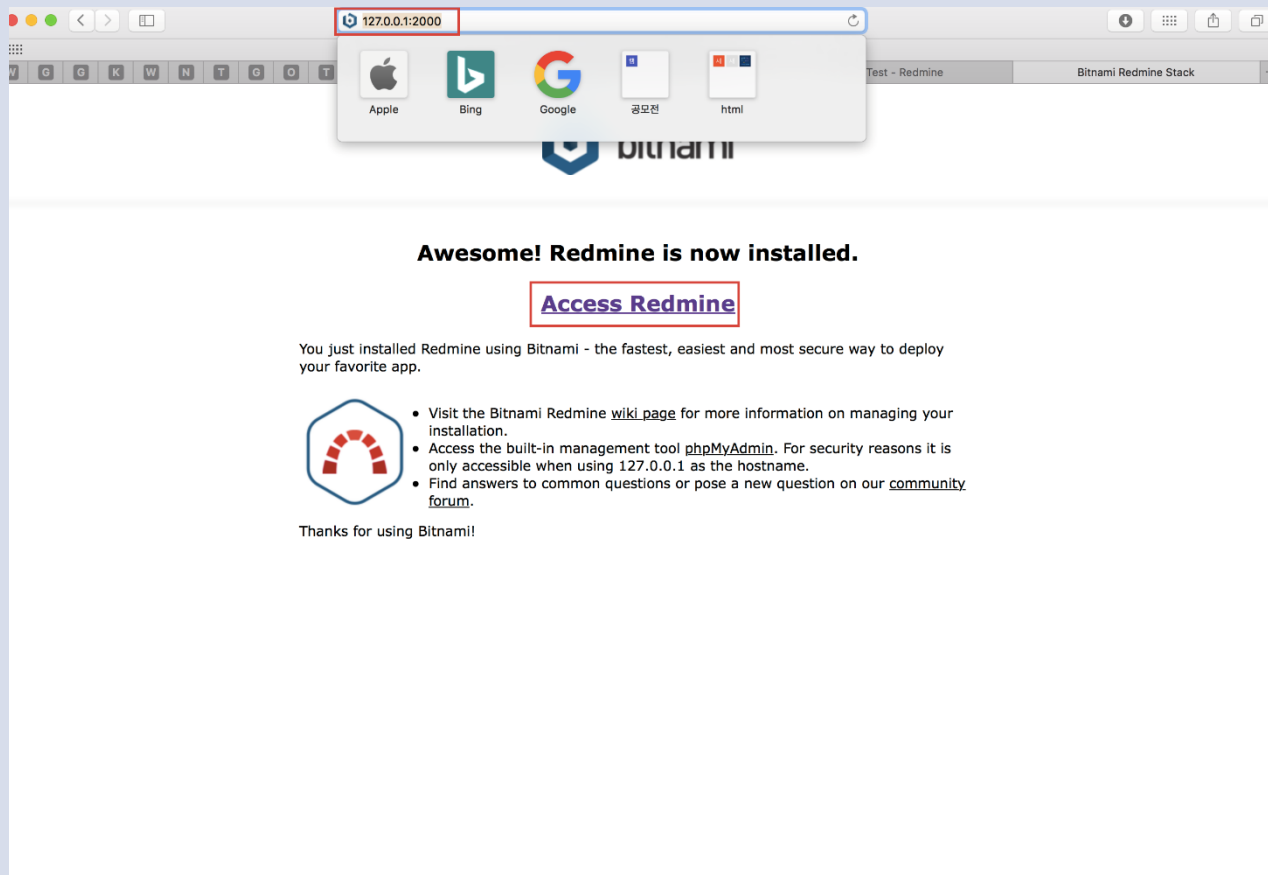
- 다음 (웹 호스팅을 원할 시 홈페이지 이동 체크)



## 2. Redmine & Trello

### Redmine 사용법

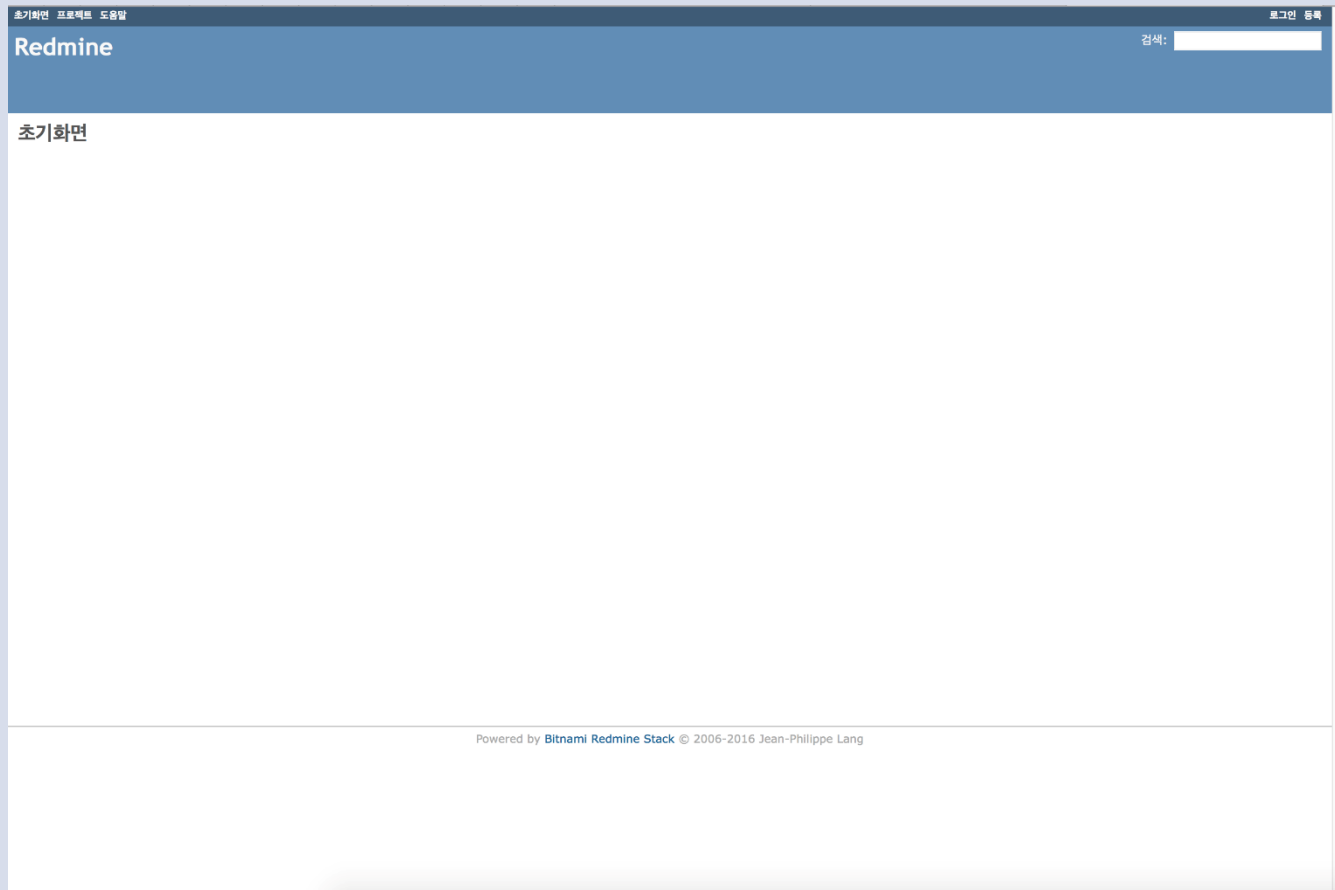
- URL 입력창에 127.0.0.1: (등록한 포트번호) 입력



## 2. Redmine & Trello

### Redmine 사용법

- Redmin 초기화면



## 2. Redmine & Trello

### Redmine 사용법

- 오른쪽 상단 등록 -> 등록 폼에 맞춰 입력 -> 확인

프로젝트 진행상황에 따라 email 수신을 하기 위해서 email 입력은 필수

초기화면 프로젝트 도움말 로그인 등록

Redmine 검색:

### 등록

로그인 \*

비밀번호 \*   
최소한 8 글자 이상이어야 합니다.

비밀번호 확인 \*

이름 \*

성 \*

메일 \*

언어

## 2. Redmine & Trello

### Redmine 사용법

- 오른쪽 상단 로그인 → ID/PW입력 → 로그인버튼

초기화면 프로젝트 도움말 로그인 등록

Redmine 검색:

로그인:

비밀번호:

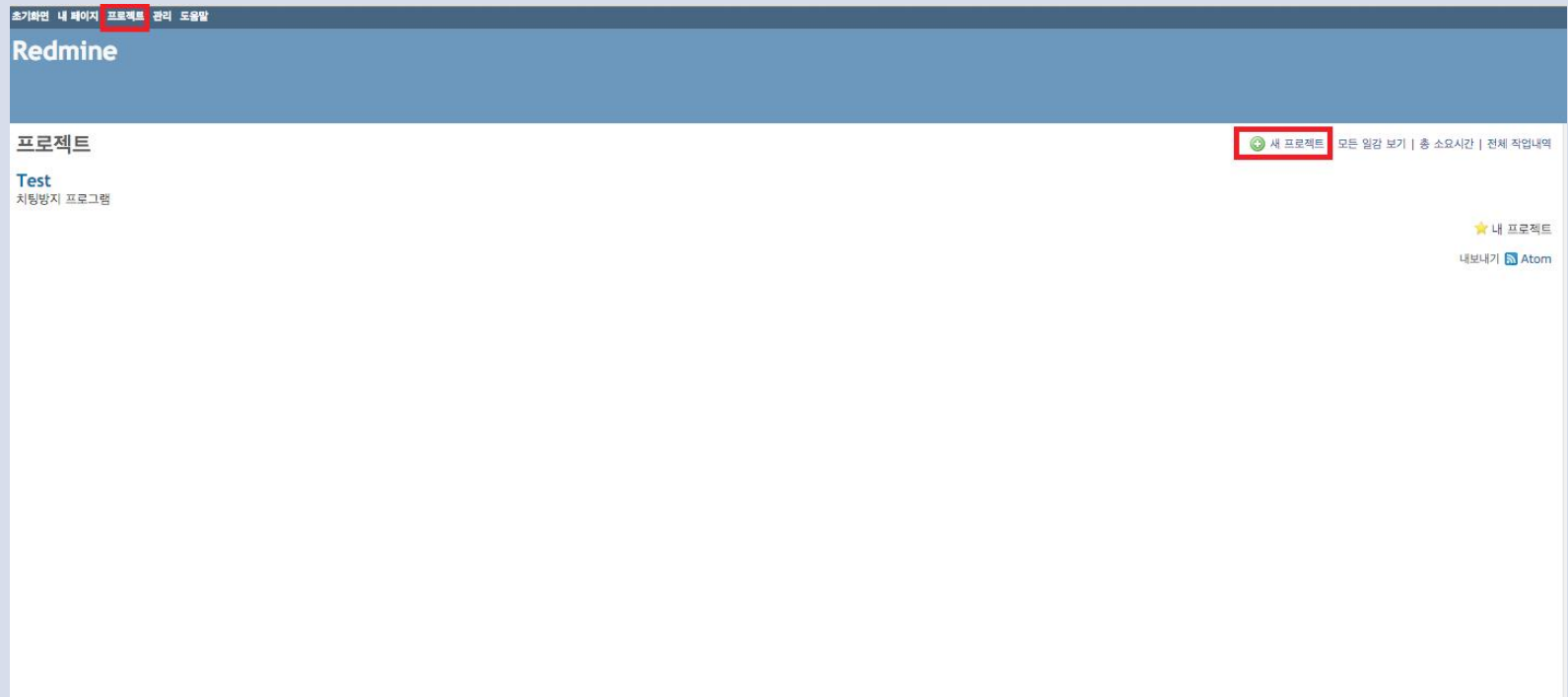
비밀번호 찾기

Powered by Bitnami Redmine Stack © 2006-2016 Jean-Philippe Lang

## 2. Redmine & Trello

### Redmine 사용법

- Redmine 프로젝트 만들기  
왼쪽 상단 프로젝트 -> 새 프로젝트 만들기



## 2. Redmine & Trello

### Redmine 사용법

- Redmine 프로젝트 만들기
  - 이름 – 프로젝트 이름
  - 식별자 – url주소에 식별자가 될 정보
  - 상위 – 어떤 프로젝트의 프로젝트 서브 프로젝트 일 경우 선택
  - 나머지는 필요에 따라 추가 및 선택

Redmine

새 프로젝트

이름 \*

설명 B I U ↺ C H1 H2 H3 ☰ ☷ ☹ pre 📎 📷 🌐

식별자 \*

1 에서 100 글자 소문자(a-z),숫자,대위(-)와 밑줄(\_)만 가능합니다.  
식별자는 저장후에는 수정할 수 없습니다.

홈페이지

공개

상위 프로젝트

상위 프로젝트로부터 구성원을 상속

모듈

<input checked="" type="checkbox"/> 일감관리	<input checked="" type="checkbox"/> 시간추적	<input checked="" type="checkbox"/> 뉴스
<input checked="" type="checkbox"/> 저장소	<input checked="" type="checkbox"/> 게시판	<input checked="" type="checkbox"/> 달력

일감 유형

<input checked="" type="checkbox"/> 결함	<input checked="" type="checkbox"/> 새기능	<input checked="" type="checkbox"/> 지원
--	---	--

만들기 만들고 계속하기

## 2. Redmine & Trello

### Redmine 사용법

- 기본 화면

The screenshot displays the Redmine web interface for a project named 'Test'. The browser address bar shows the URL '127.0.0.1:2000/redmine/projects/test'. The interface includes a navigation menu with options like '개요', '작업내역', '일감', '새 일감만들기', 'Gantt 차트', '달력', '뉴스', '문서', '위키', '파일', '저장소', and '설정'. The main content area is divided into several sections:

- 개요 (Overview):** Shows a table for '일감 추적' (Task Tracking) with columns for '진행중' (In Progress), '완료됨' (Completed), and '합계' (Total).
- 최근 뉴스 (Recent News):** Displays a list of news items, including a message from '18 Admin이(가) 일본 전에 추가함'.
- 소요 시간 (Time Spent):** Shows a progress indicator for '0.00 시간' (0.00 hours) and links to '작업시간 기록' (Work Time Log), '자세히' (Details), and '보고서' (Report).

At the bottom of the page, it states 'Powered by Bitnami Redmine Stack © 2006-2016 Jean-Philippe Lang'.



## 2. Redmine & Trello

### Redmine 사용법

- Redmine 새 일감 만들기

The screenshot shows the Redmine 'New Issue' form for a project named 'Test'. The browser address bar shows the URL '127.0.0.1:2000/redmine/projects/test/issues/new'. The form includes the following fields and options:

- 유형 (Type):** A dropdown menu set to '결함' (Bug).
- 제목 (Subject):** A text input field.
- 설명 (Description):** A large text area with a rich text editor toolbar.
- 상태 (Status):** A dropdown menu set to '신규' (New).
- 우선순위 (Priority):** A dropdown menu set to '보통' (Normal).
- 담당자 (Assignee):** A dropdown menu.
- 상위 일감 (Parent Issue):** A dropdown menu.
- 시작시간 (Start Time):** A date field set to '2016-03-28'.
- 완료기한 (Due Date):** A date field.
- 추정시간 (Estimated Time):** A field set to '시간' (Hours).
- 진척도 (Progress):** A dropdown menu set to '0%'.

At the bottom of the form, there are buttons for '만들기' (Create), '만들고 계속하기' (Create and Continue), and '미리보기' (Preview). The footer of the page reads 'Powered by Bitnami Redmine Stack © 2006-2016 Jean-Philippe Lang'.

## 2. Redmine & Trello

### Trello

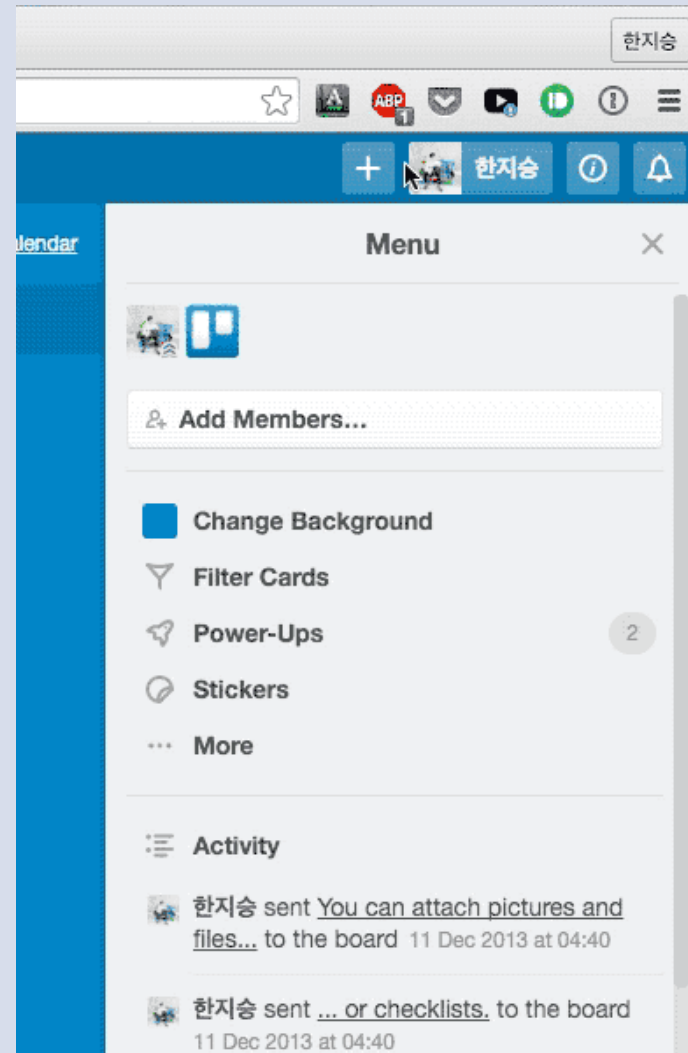
- Trello는 프로젝트 관리 툴로 카드 형식의 보드로 한눈에 직관적으로 업무 내용이나 요구사항, 진척도를 파악할 수 있어 Agile 개발에 많이 사용
- 여러 사람들과 동시다발적으로 관리가 가능한 프로젝트 관리 툴



## 2. Redmine & Trello

### Trello

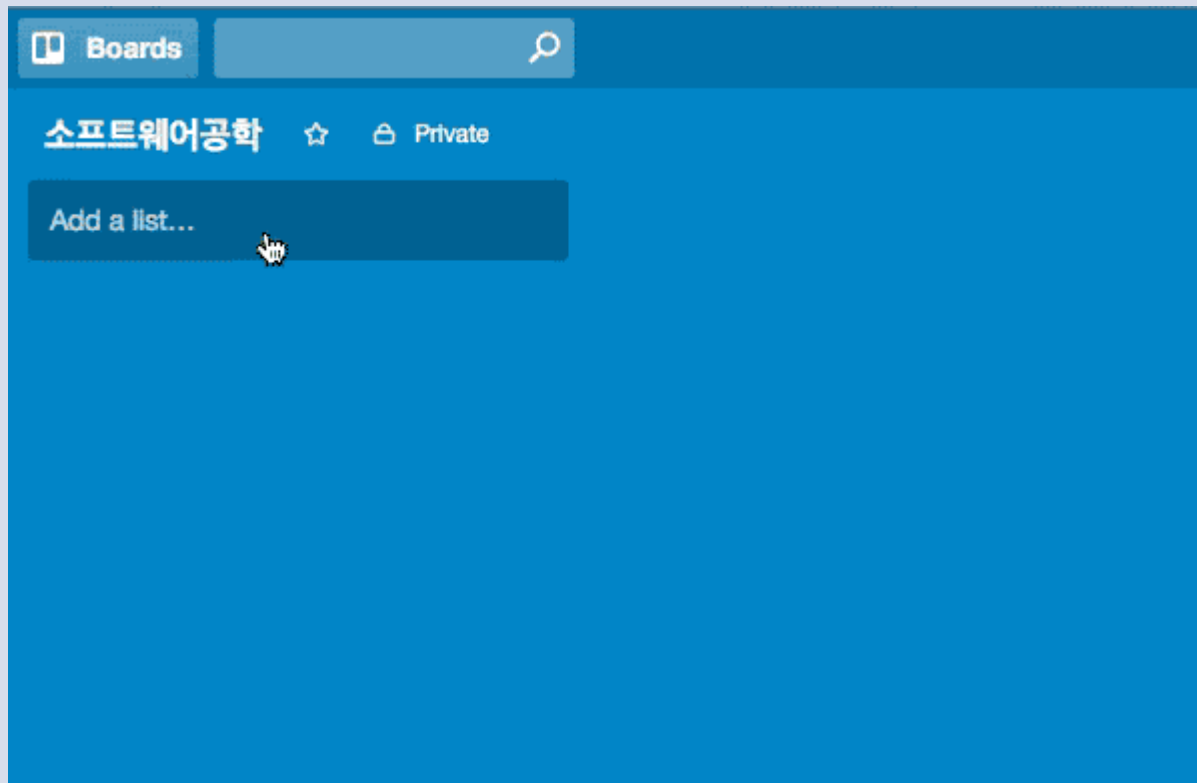
- Trello 가입 후 보드 생성으로 프로젝트 게시판을 생성



## 2. Redmine & Trello

### Trello

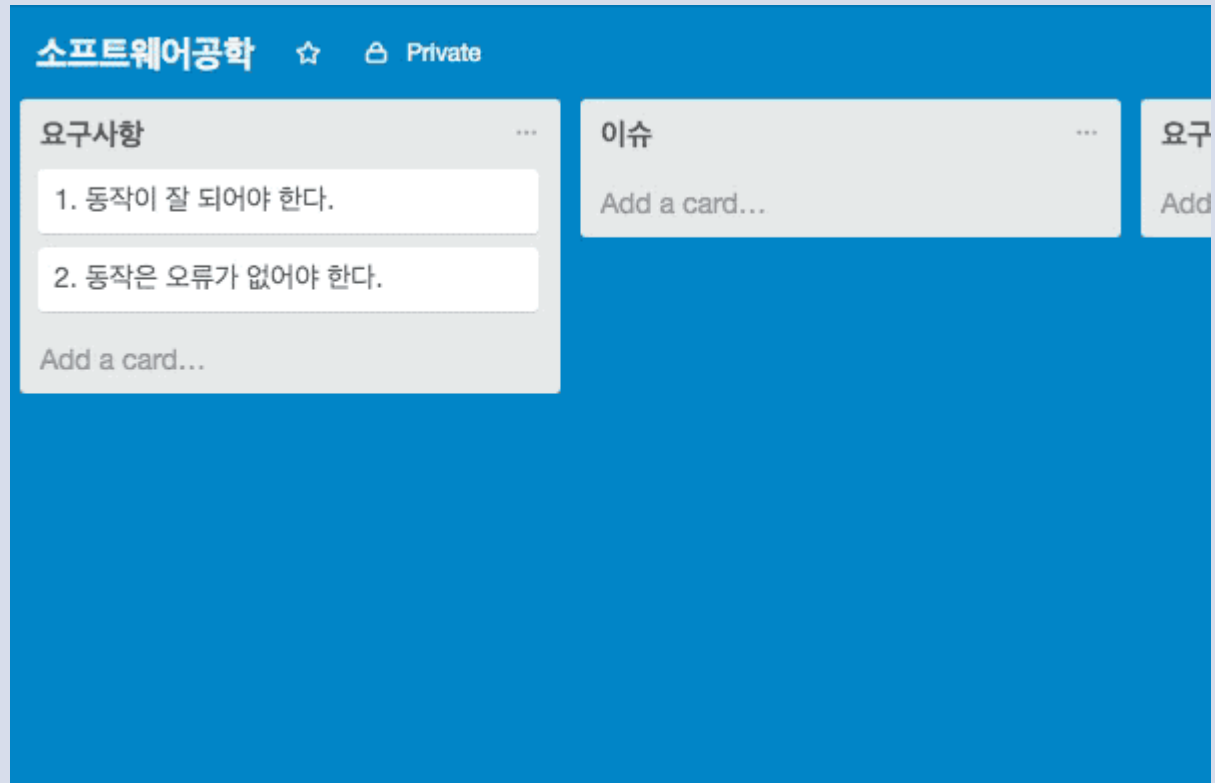
- 한 가지 그룹의 보드 생성



## 2. Redmine & Trello

### Trello

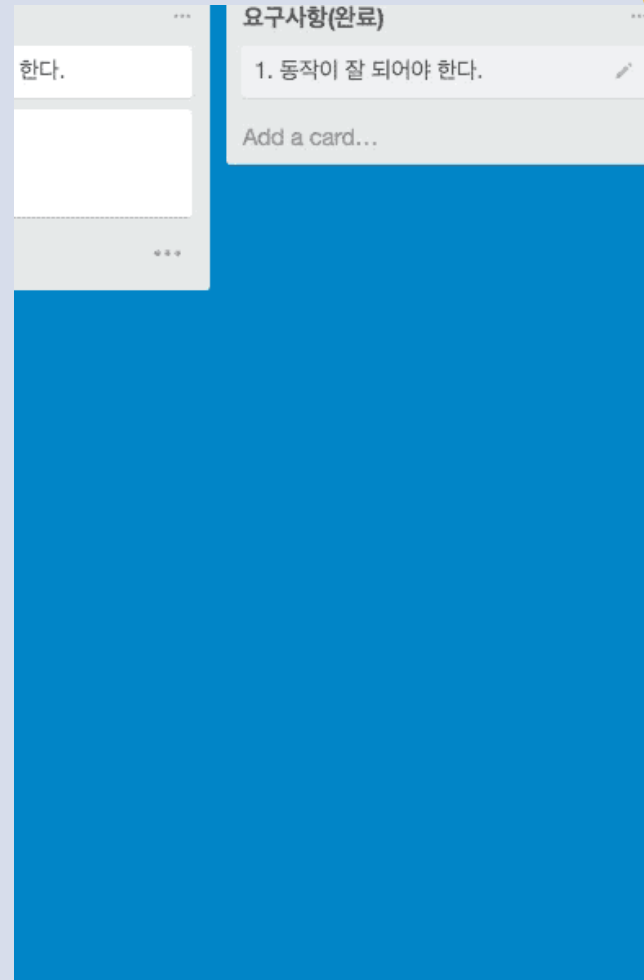
- 생성된 리스트나 카드는 이동이 간편하여 관리가 편함



## 2. Redmine & Trello

### Trello

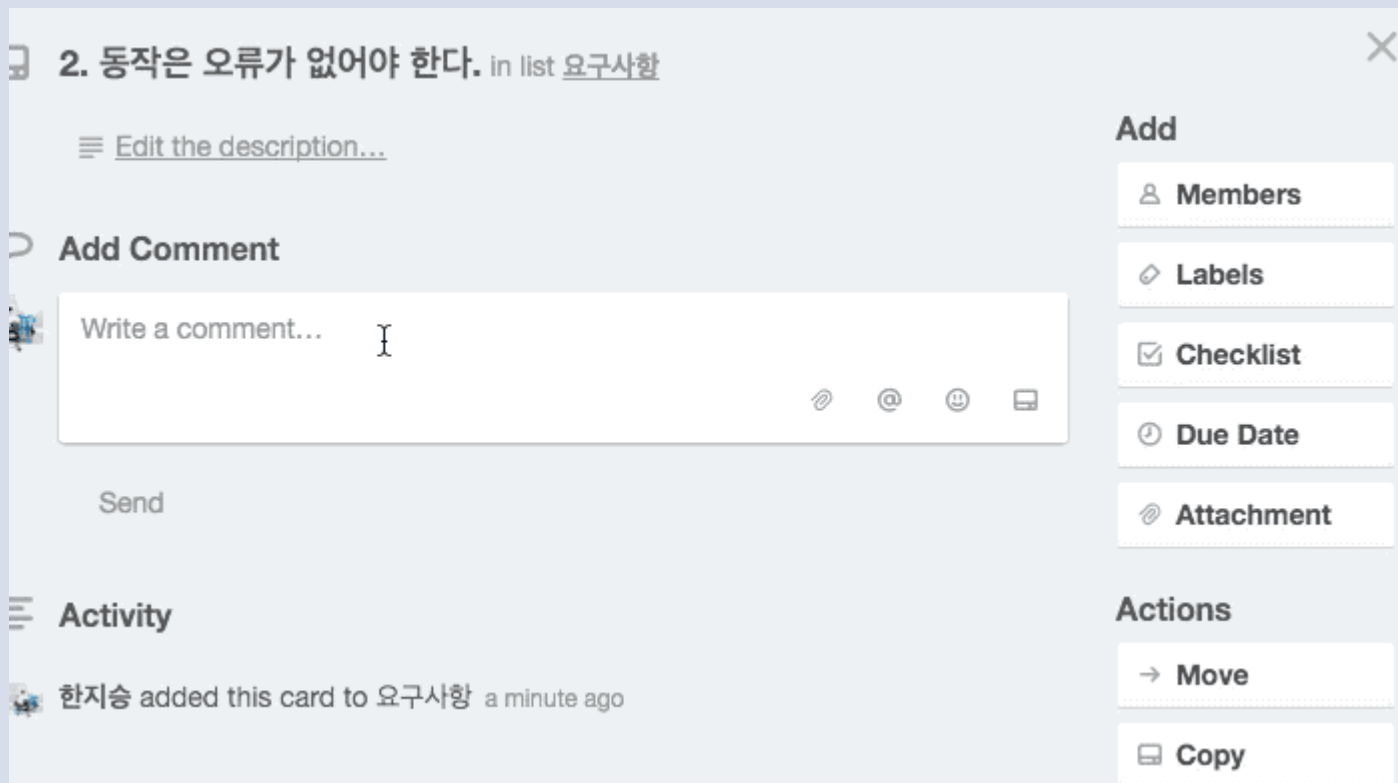
- 카드를 라벨 색상으로 분류 가능



## 2. Redmine & Trello

### Trello

- 카드 내부에는 여러 가지 기능을 제공하여 표현이 다양



The screenshot displays a Trello card interface. At the top, the card title is "2. 동작은 오류가 없어야 한다." followed by "in list" and "요구사항". Below the title is an "Edit the description..." link. The main section is "Add Comment", featuring a text input field with the placeholder "Write a comment..." and a "Send" button. To the right of the input field are icons for linking, mentioning, emojis, and attachments. Below the comment section is an "Activity" section showing a log entry: "한지승 added this card to 요구사항 a minute ago". On the right side of the card, there is a sidebar with "Add" and "Actions" sections. The "Add" section includes buttons for "Members", "Labels", "Checklist", "Due Date", and "Attachment". The "Actions" section includes buttons for "Move" and "Copy".



# 3

## Jenkins

- 1) Jenkins?
- 2) Jenkins 설치
- 3) Jenkins 사용법
- 4) Jenkins 계정 관리



## 3. Jenkins

### Jenkins?

- Jenkins는 Java 기반의 오픈 소스로 지속적 통합관리(CI)를 가능하게 하는 툴이다.
- 지속적 통합관리에 대해 간단하게 얘기하면 여러 사람들이 개발한 내용에 대해서 한 번에 합쳐서 만들어 주는 기능이다.
- Apache tomcat과 같은 서블릿 컨테이너 서버 기반으로 돌아가는 시스템이며 CVS, SVN, GIT 등 다양한 버전관리 툴을 지원하고 Ant나 Maven 기반의 프로젝트 뿐 아니라 임의에 셸 스크립트와 window배치 명령까지 실행시킬 수 있다.



# Jenkins

## 3. Jenkins

### Jenkins?

- 자동배포 웹 어플리케이션
- 클릭만으로 빌드, 배포가 가능
- 빌드 예약을 통하여 모두가 잠든 새벽 시간에 자동 빌드 하여 다음 날 아침에 확인 가능
- 빌드 시간이 오래 걸리는 대규모 프로젝트에 적합



# Jenkins

## 3. Jenkins

### Jenkins 설치

- Download Jenkins 클릭



# Jenkins

Build great things at any scale

The leading open source automation server, Jenkins provides hundreds of plugins to support building, deploying and automating any project.

[Download Jenkins](#)

Get 1.642.3 LTS .war or the latest 1.654 weekly release

## 3. Jenkins

### Jenkins 설치

- LTS Release에서 1.642.3.war 클릭



The screenshot shows the Jenkins download page with two main sections: 'LTS Release' and 'Weekly Release'. The 'LTS Release' section describes LTS (Long-Term Support) releases as being chosen every 12 weeks from the stream of regular releases as the stable release for that time period. It features a red button with a download icon and the text '1.642.3 .war'. Below this button are links for 'Changelog' and 'Past Releases'. The 'Weekly Release' section states that a new release is produced weekly to deliver bug fixes and features to users and plugin developers. It features a red button with a download icon and the text '1.654 .war'. Below this button are links for 'Changelog' and 'Past Releases'. At the bottom of the page, there is a large dark blue button labeled 'Download Jenkins' and a footer text that reads 'Get 1.642.3 LTS .war or the latest 1.654 weekly release'.

**LTS Release**

LTS (Long-Term Support) releases are chosen every 12 weeks from the stream of regular releases as the stable release for that time period.

 1.642.3 .war

[Changelog](#) | [Past Releases](#)

**Weekly Release**

A new release is produced weekly to deliver bug fixes and features to users and plugin developers.

 1.654 .war

[Changelog](#) | [Past Releases](#)

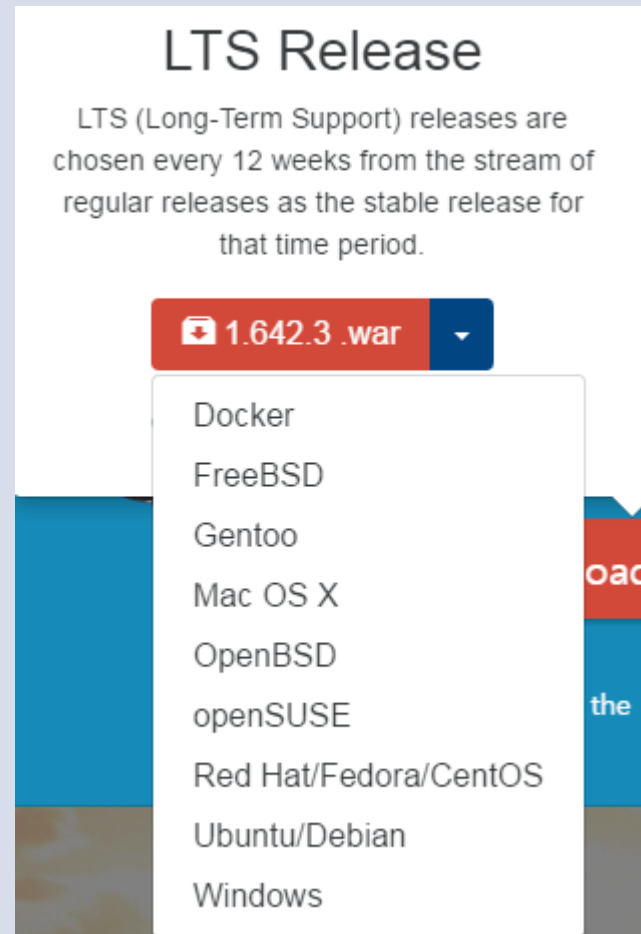
**Download Jenkins**

Get 1.642.3 LTS .war or the latest 1.654 weekly release

## 3. Jenkins

### Jenkins 설치

- 자신의 OS를 선택하면  
설치파일이 자동으로  
다운로드 시작



The screenshot shows the Jenkins LTS Release selection interface. At the top, it says "LTS Release" and explains that LTS (Long-Term Support) releases are chosen every 12 weeks from the stream of regular releases as the stable release for that time period. Below this, there is a dropdown menu currently showing "1.642.3 .war". A list of operating systems is displayed below the dropdown, including Docker, FreeBSD, Gentoo, Mac OS X, OpenBSD, openSUSE, Red Hat/Fedora/CentOS, Ubuntu/Debian, and Windows.

LTS Release

LTS (Long-Term Support) releases are chosen every 12 weeks from the stream of regular releases as the stable release for that time period.

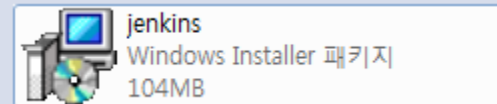
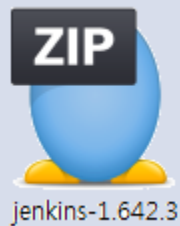
1.642.3 .war

- Docker
- FreeBSD
- Gentoo
- Mac OS X
- OpenBSD
- openSUSE
- Red Hat/Fedora/CentOS
- Ubuntu/Debian
- Windows

## 3. Jenkins

### Jenkins 설치

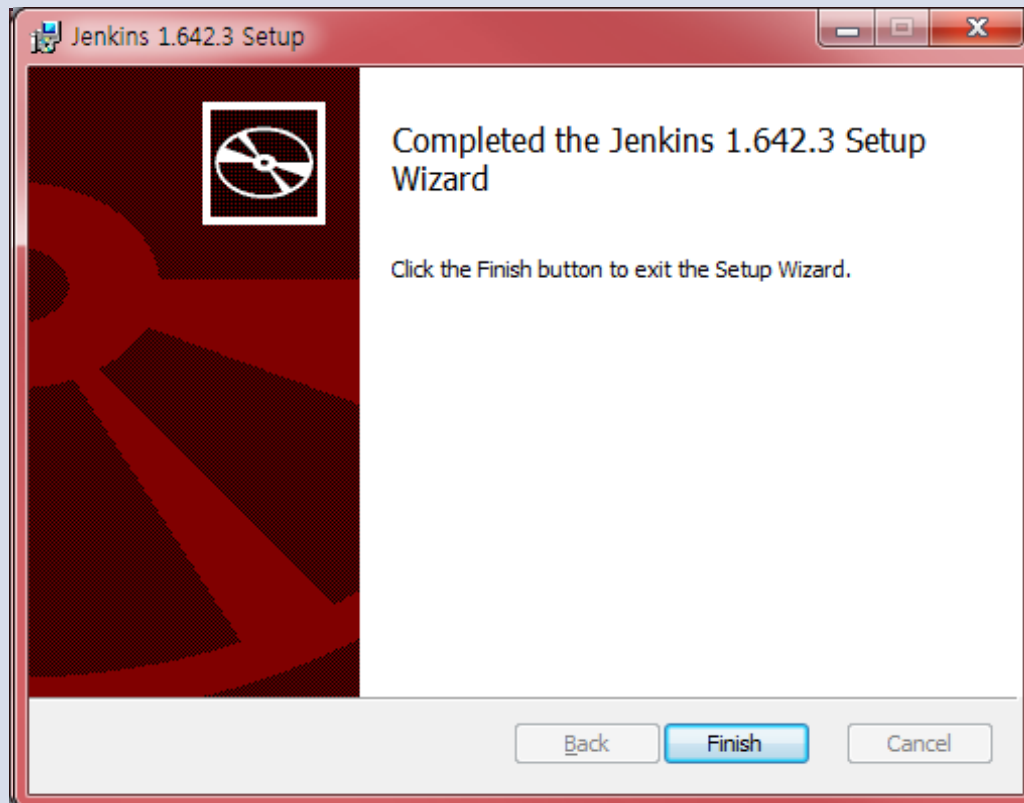
- 다운로드 후에 생긴 zip파일을 압축해제 하면 Jenkins 설치파일이 생성된다.



## 3. Jenkins

### Jenkins 설치

- 설치화면 처음부터 계속 Next 선택 → 모두 완료 시 Finish 클릭



# 3. Jenkins

## Jenkins 설치

- 설치가 완료되면 http://localhost:8080/에서 Jenkins page를 확인 가능
- 만약 접속이 되지 않는다면 8080port를 이미 다른 program에서 사용 중이거나 누군가 사용을 막고 있는 것이다.
- Port를 원하는 것으로 변경하여 접속하면 사용이 가능
- Port변경은 Jenkins가 설치되어 있는 폴더의 Jenkins.xml file을 수정

```
<service>
  <id>jenkins</id>
  <name>Jenkins</name>
  <description>This service runs Jenkins continuous integration system.</description>
  <env name="JENKINS_HOME" value="C:\Jenkins"/>
  <!--
    if you'd like to run Jenkins with a specific version of Java, specify a full path to java.exe.
    The following value assumes that you have java in your PATH.
  -->
  <executable>%BASE%\jre\bin\java</executable>
  <arguments>-Xrs -Xmx256m -Dhudson.lifecycle=udson.lifecycle.WindowsServiceLifecycle -jar "%BASE%\jenkins.war" --httpPort=8085 --webp
  <!--
    interactive flag causes the empty black Java window to be displayed.
    I'm still debugging this.
  <interactive />
  -->
```

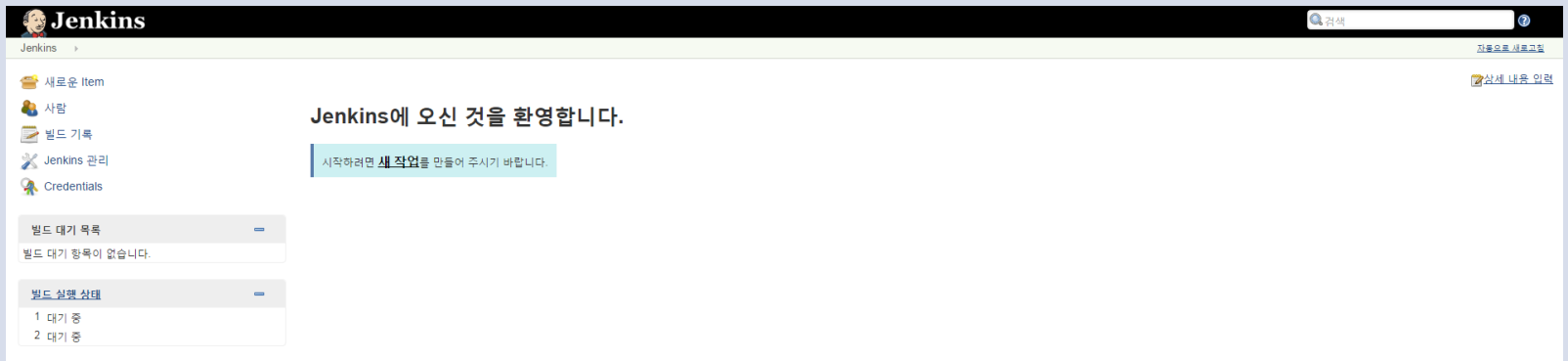
--httpPort=8085



# 3. Jenkins

## Jenkins 사용법

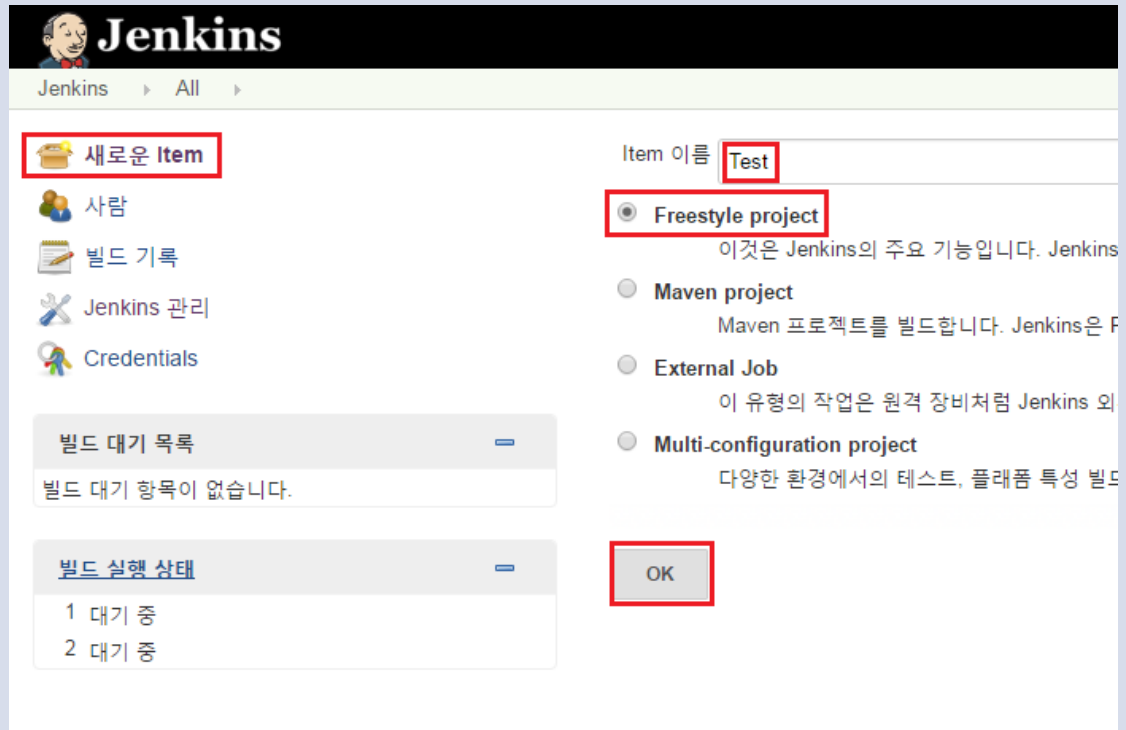
- Jenkins의 시작 웹 페이지



# 3. Jenkins

## Jenkins 사용법

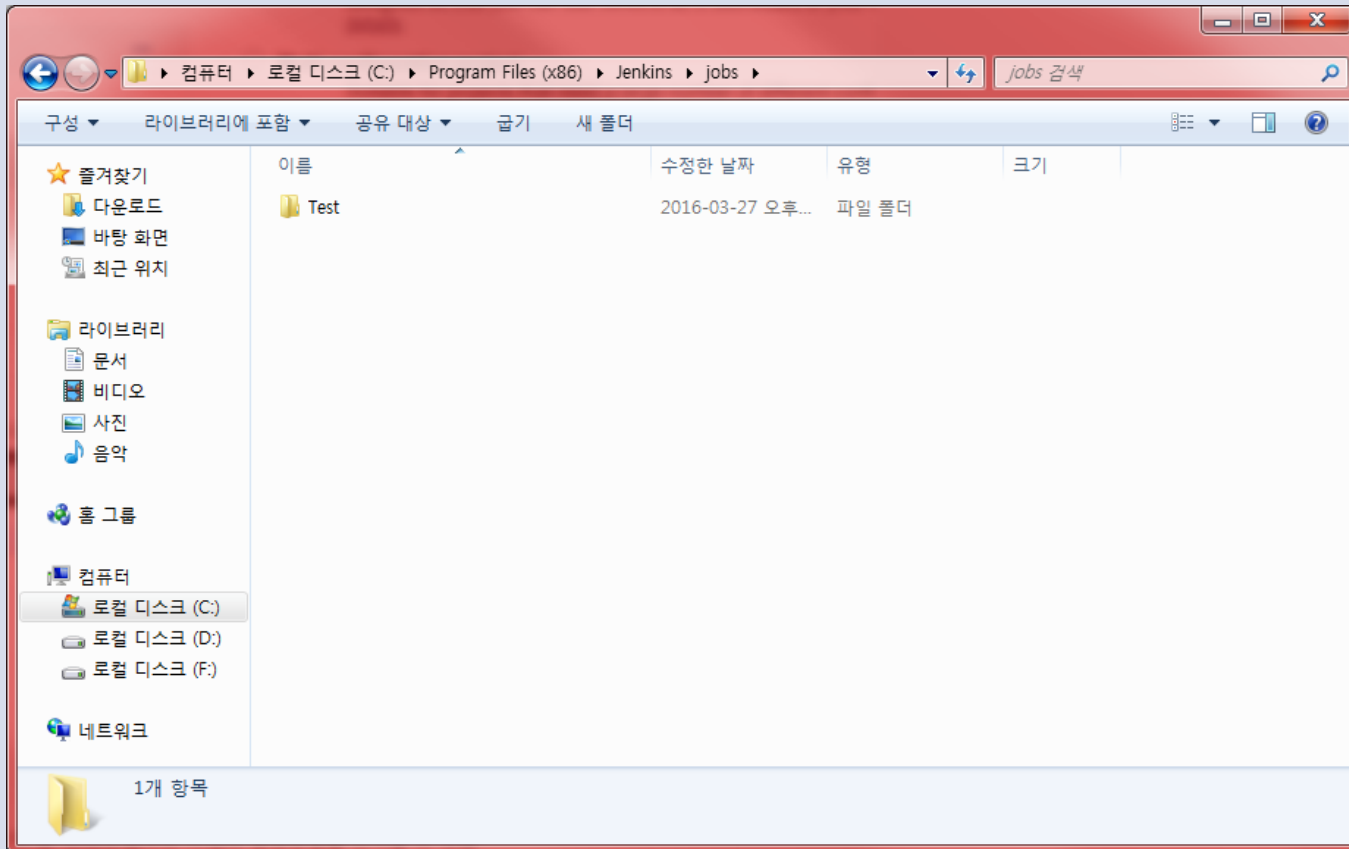
- 새로운 프로젝트를 만들기 위해 새로운 item 클릭
- 프로젝트 이름을 넣은 후 project의 유형 선택 뒤 OK 클릭
- Maven을 이용한다면 Maven project 선택 가능



# 3. Jenkins

## Jenkins 사용법

- New item이 생성되면 jenkins/jobs/에 새로 생성한 item의 folder가 생성



# 3. Jenkins

## Jenkins 사용법

- 프로젝트를 생성하기 전에 프로젝트에 기본적인 설정을 변경 가능

The screenshot shows the Jenkins configuration interface for a project named "Test". The interface is organized into several sections:

- 이름 (Name):** Test
- 설명 (Description):** A large text area for entering a description.
- [Plain text] 미리보기 (Preview):** A link to preview the description text.
- 옵션 (Options):**
  - 오래된 빌드 삭제 (Delete old builds)
  - 이 빌드는 매개변수가 있습니다 (This build has parameters)
  - 빌드 안함 (프로젝트가 다시 빌드를 할 때까지 새로운 빌드가 실행되지 않습니다.) (Do not build (project does not build again until the project builds again))
  - 필요한 경우 concurrent 빌드 실행 (Execute concurrent builds if necessary)
- 고급 프로젝트 옵션 (Advanced project options):** A section with a "고급..." (Advanced...) button.
- 소스 코드 관리 (Source code management):**
  - None
  - CVS
  - CVS Projectset
  - Subversion
- 빌드 유발 (Build triggers):**
  - Build after other projects are built
  - Build periodically
  - Poll SCM
- Build:** A section with an "Add build step" dropdown button.
- 빌드 후 조치 (Post-build actions):** A section with a "빌드 후 조치 추가" (Add post-build action) dropdown button.

At the bottom of the page, there are two buttons: "저장" (Save) and "적용" (Apply).

# 3. Jenkins

## Jenkins 사용법

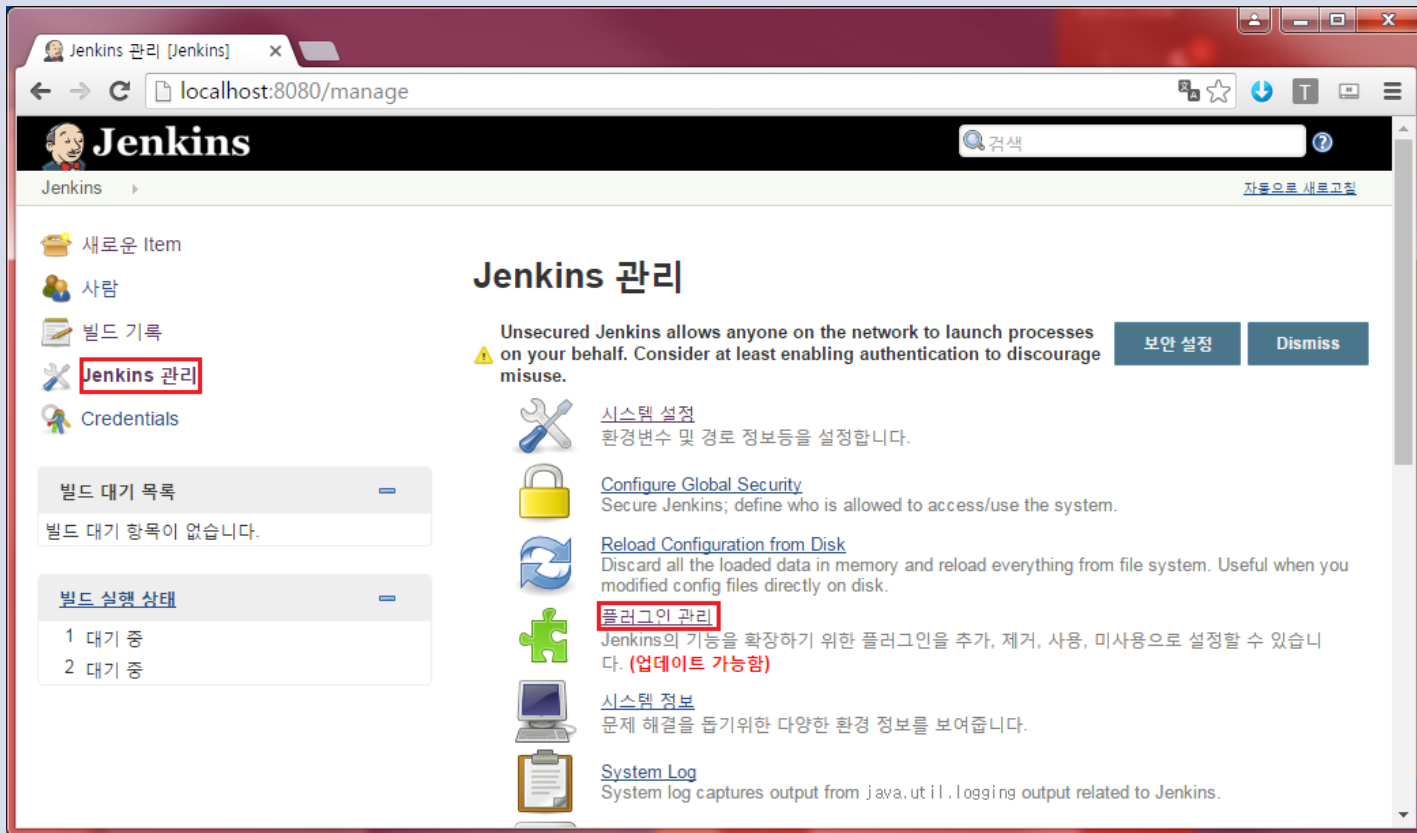
- 새로운 프로젝트가 생성된 것을 볼 수 있다.



# 3. Jenkins

## Jenkins 사용법

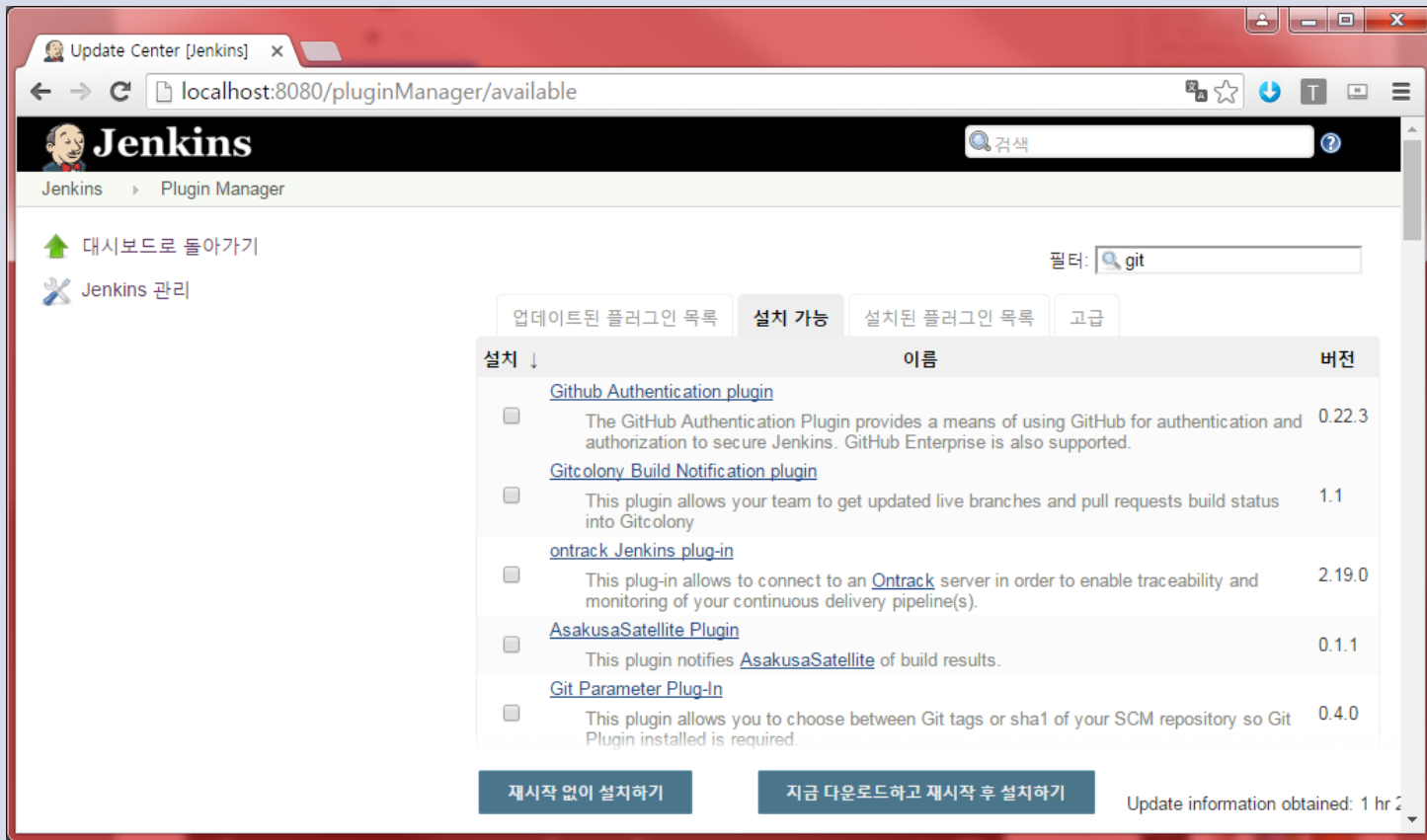
- 다른 프로그램과 연동을 하기 위하여 플러그인 설치



# 3. Jenkins

## Jenkins 사용법

- Git을 사용하기 위해서는 Github plugin, Git plugin을 설치



## 3. Jenkins

### Jenkins plugin 설치 tip

- ※ 설치 가능 목록이 나오지 않았을 경우 고급 탭에서  
지금 확인 버튼을 누른다.  
확인되지 않을 경우 방화벽 문제일 가능성이 크다.

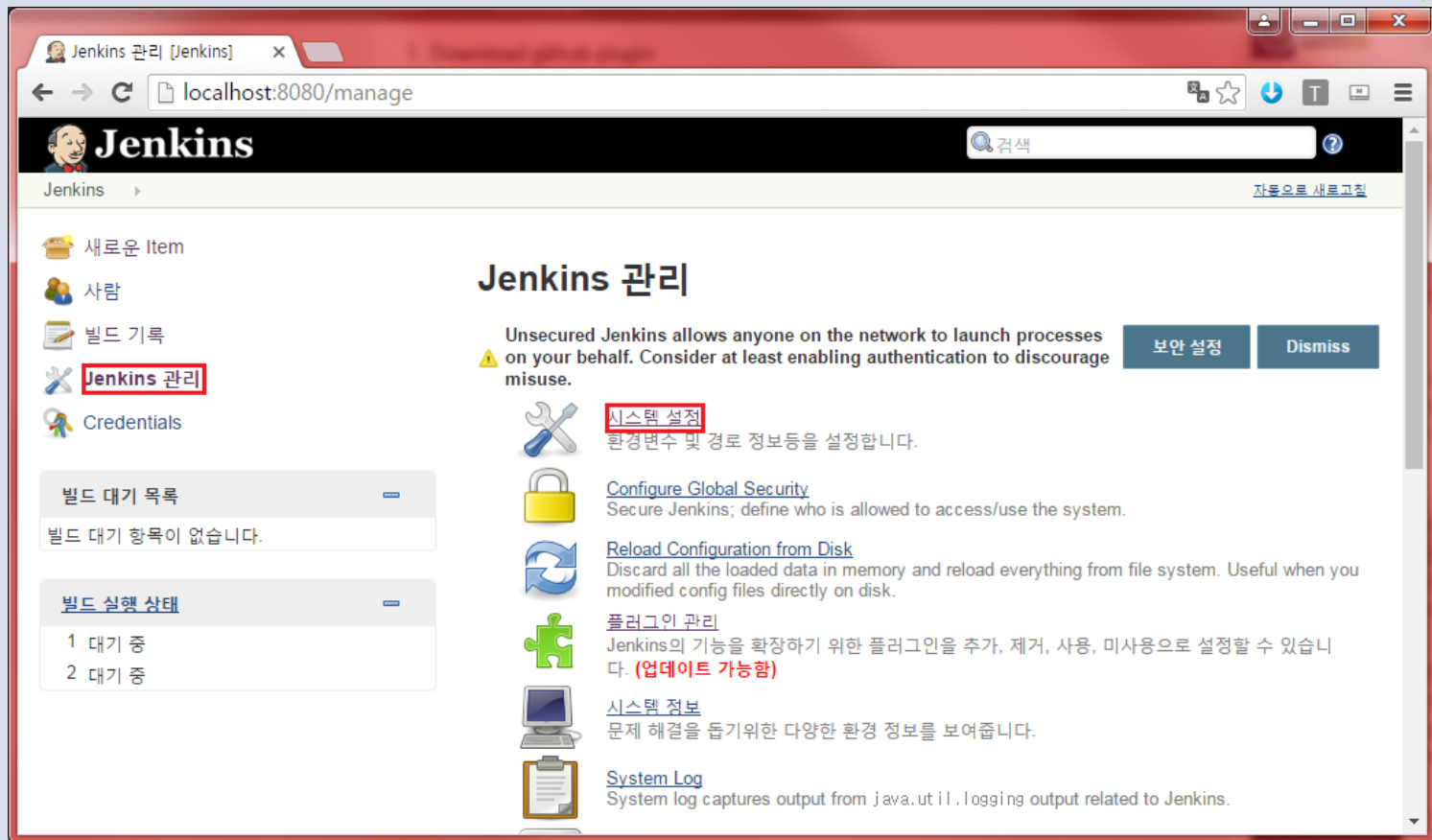




# 3. Jenkins

## Jenkins 사용법

- 설치한 plugin의 환경변수 및 경로 정보 등을 설정



# 3. Jenkins

## Jenkins 사용법

- jdk연동 시에는 오라클의 로그인 정보가 필요

The screenshot shows the Jenkins configuration interface for installing JDK and Git. The top section is titled 'JDK' and contains the following fields and controls:

- JDK Name:** A text input field containing 'jdk'.
- Install automatically:** A checked checkbox with a help icon.
- Install from java.sun.com:** A section header.
- Version:** A dropdown menu showing 'Java SE Development Kit 8u77'.
- I agree to the Java SE Development Kit License Agreement:** A checked checkbox.
- Buttons:** 'Delete Installer' (red), 'Add Installer' (grey), and 'Delete JDK' (red).

The bottom section is titled 'Git' and contains the following fields and controls:

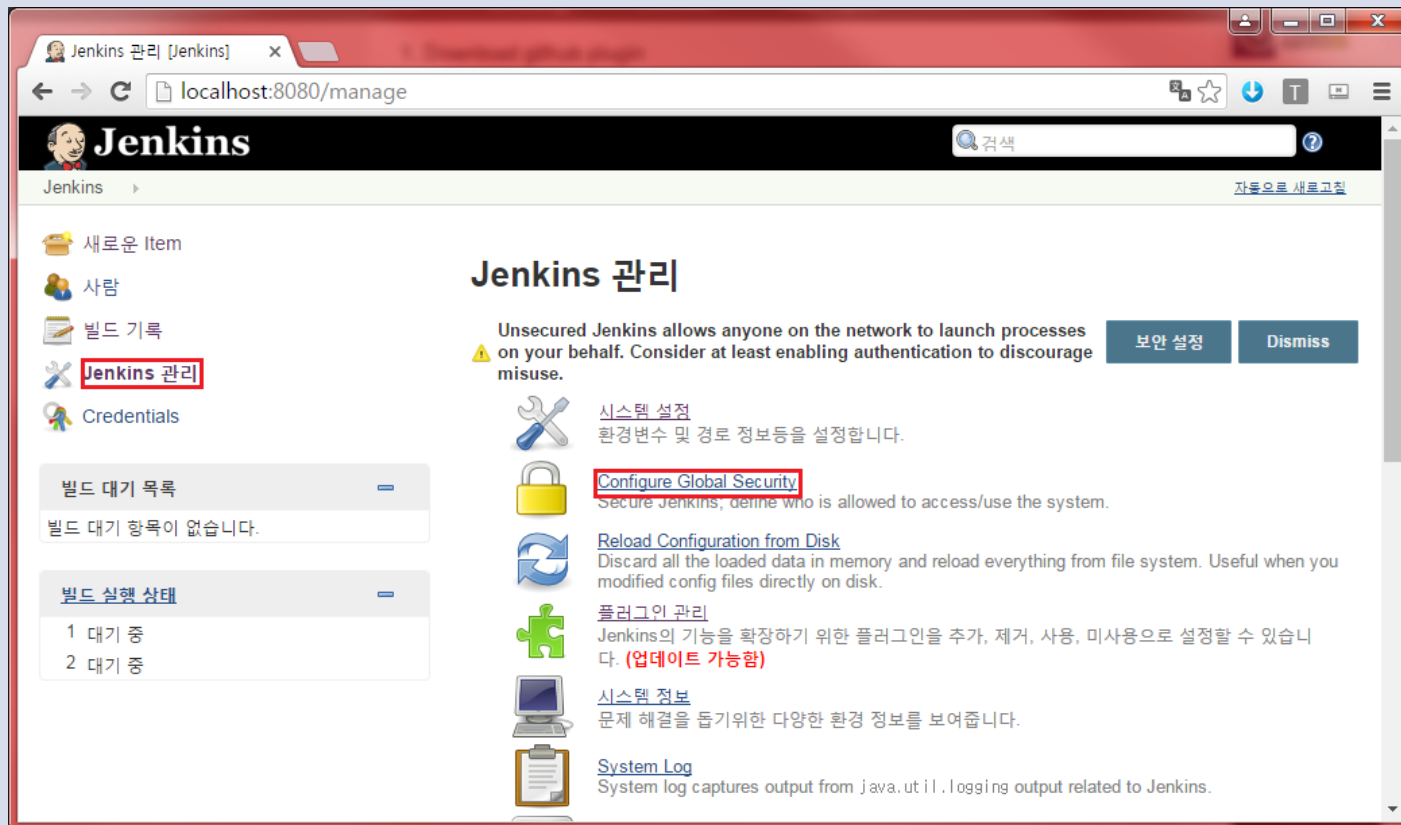
- Git Name:** A text input field containing 'Default'.
- Path to Git executable:** A text input field containing 'C:\Program Files\Git\bin\git.exe'.
- Install automatically:** An unchecked checkbox with a help icon.
- Buttons:** 'Delete Git' (red) and 'Add Git' (grey).

At the bottom of the Git section, there is a 'description' label.

# 3. Jenkins

## Jenkins 계정관리

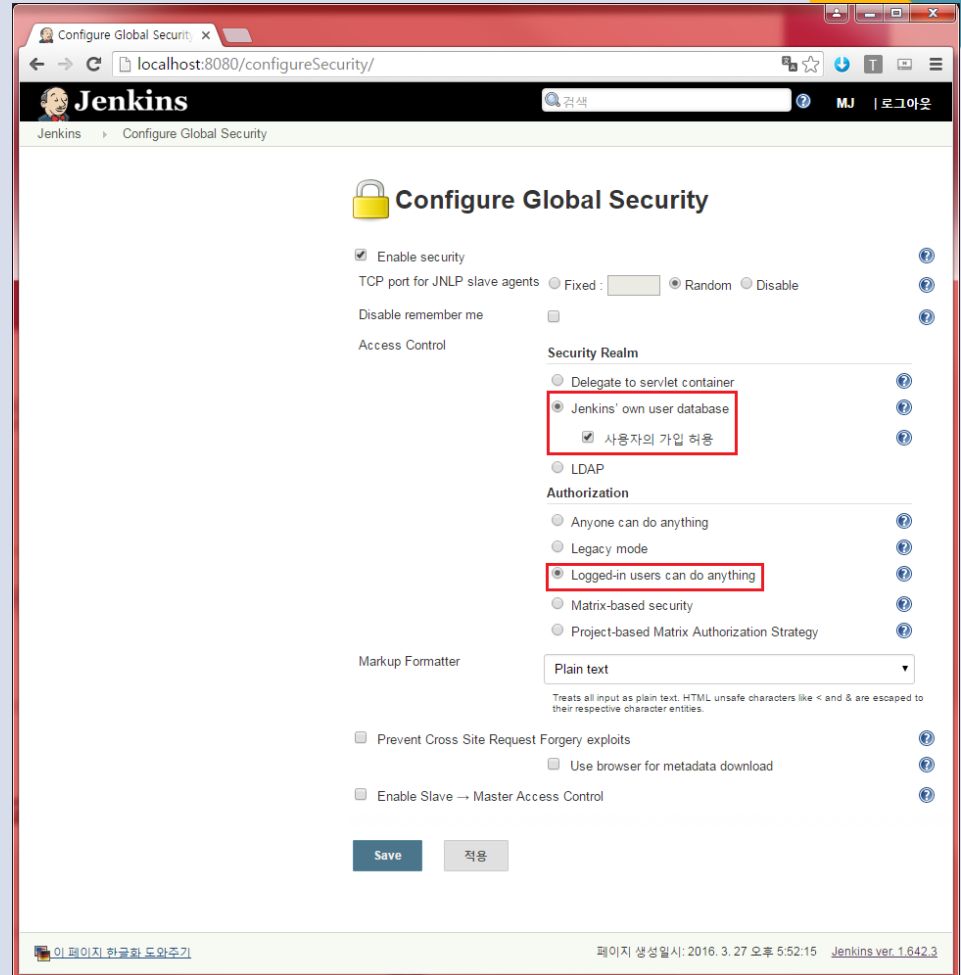
- Jenkins 관리에서 Configure Global Security 선택



# 3. Jenkins

## Jenkins 계정관리

- 다음과 같이 설정하면 프로젝트에 대하여 무분별한 접근 불가



## 3. Jenkins

### Jenkins 계정관리

- 계정관리를 위하여 회원가입 및 로그인 진행

### Sign up

계정명:

암호:

암호 확인:


이름:

이메일 주소:



# 3. Jenkins

## Jenkins 계정관리

- 회원가입 후 사용자들의 모습

 사용자

Includes all known “users”, including login identities which the current security realm can enumerate, as well as people mentioned in commit messages in recorded changelogs.

	User Id	이름	Last Commit Activity ↑	접속 중
	<a href="#">Cypress</a>	<a href="#">MJ</a>	N/A	
	<a href="#">aa</a>	<a href="#">aa</a>	N/A	

# 3. Jenkins

## Jenkins 계정관리

- 필요한 권한을 알맞은 사용자에게 부여 가능

Authorization

- Anyone can do anything
- Legacy mode
- Logged-in users can do anything
- Matrix-based security
- Project-based Matrix Authorization Strategy

User/group	Overall	Credentials	Slave	Job	Run	View	SCM	
Anonymous	<input type="checkbox"/> Administer <input type="checkbox"/> Configure <input type="checkbox"/> Update <input type="checkbox"/> Center <input type="checkbox"/> Read <input type="checkbox"/> Run <input type="checkbox"/> Scripts <input type="checkbox"/> Upload <input type="checkbox"/> Plugins <input type="checkbox"/> Create <input type="checkbox"/> Delete <input type="checkbox"/> Manage <input type="checkbox"/> Domains <input type="checkbox"/> Update <input type="checkbox"/> View <input type="checkbox"/> Build <input type="checkbox"/> Configure <input type="checkbox"/> Connect <input type="checkbox"/> Create <input type="checkbox"/> Delete <input type="checkbox"/> Disconnect <input type="checkbox"/> Build <input type="checkbox"/> Cancel <input type="checkbox"/> Configure <input type="checkbox"/> Create <input type="checkbox"/> Delete <input type="checkbox"/> Discover <input type="checkbox"/> Read <input type="checkbox"/> Workspace <input type="checkbox"/> Delete <input type="checkbox"/> Update <input type="checkbox"/> Configure <input type="checkbox"/> Create <input type="checkbox"/> Delete <input type="checkbox"/> Read <input type="checkbox"/> Tag	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



# 4

## Git & Slack

- 1) Git
- 2) Github
- 3) Slack



## 4. Git & Slack

### Git

- 버전 관리 시스템은 파일의 변화를 시간에 따라 기록하여 과거 특정 시점의 버전을 다시 불러올 수 있는 시스템이다. 뿐만 아니라 여러 사람이 같은 프로젝트를 진행했을 때 관리해주는 역할도 한다.



## 4. Git & Slack

### Git



- Git은 로컬저장소와 원격 저장소를 분리가 되어 존재
  - ✓ 분산처리, 안전한 데이터, 빠른 처리속도
- 스테이지 영역이 존재
  - ✓ 커밋 할 파일을 미리 분리가 필요
- 스냅샷을 이용한 버전 관리
  - ✓ 빠르고 편리한 브랜치 & 병합 가능

## 4. Git & Slack

### Git

- <https://git-scm.com/downloads>에서 다운로드 가능

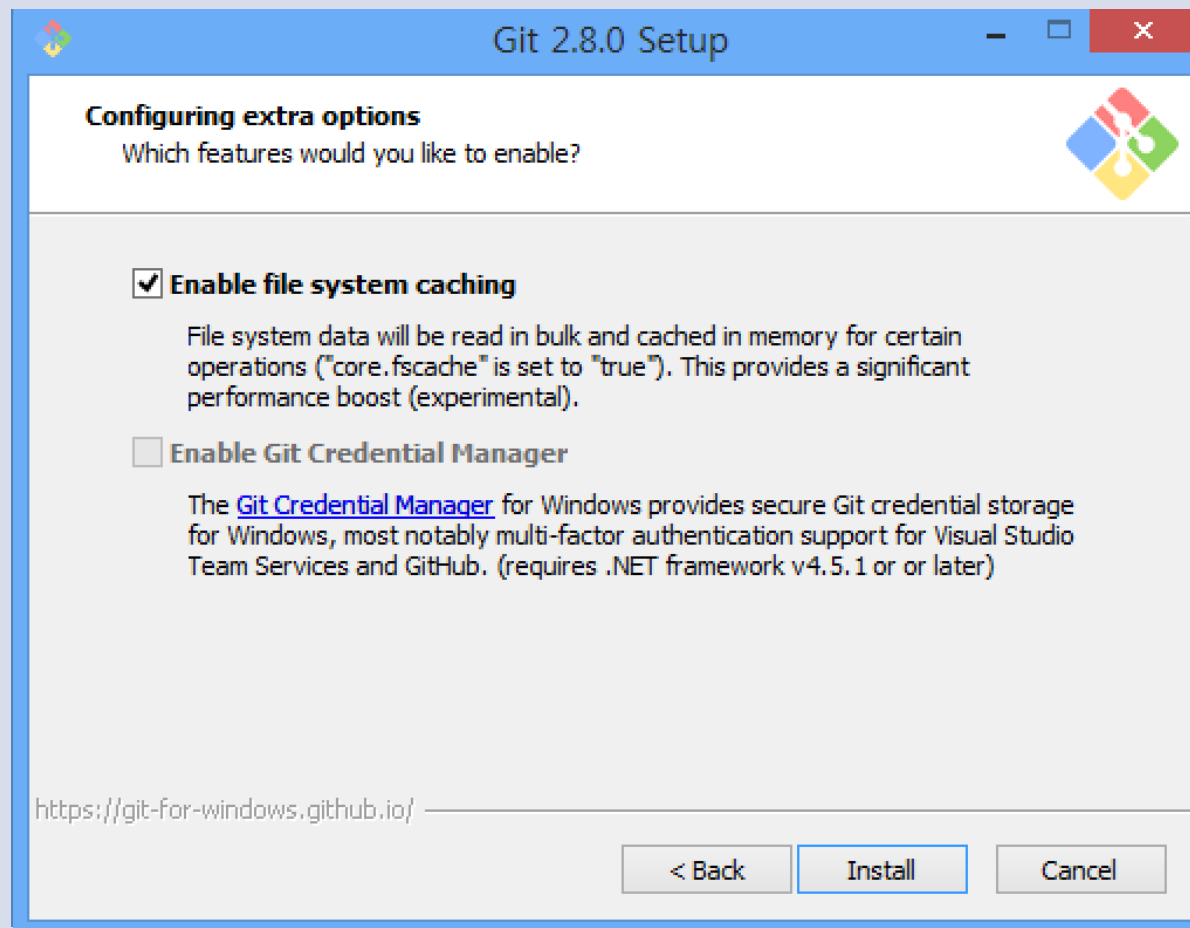


The screenshot shows the 'git for windows' website. At the top left, it says 'git for windows' and 'VERSION 2.8.0'. On the right, there are links for 'FAQ', 'REPOSITORY', and 'MAILING LIST'. The main content area features the Git logo (an orange diamond with a white branching diagram) on the left. To the right of the logo, the text reads 'We bring the awesome Git SCM to Windows'. Below this text are two blue buttons: 'Download' and 'Contribute'. Below the main content area is a blue banner with the text 'Tools & Features'. Underneath this banner, there is a paragraph of text: 'Git for Windows focuses on offering a lightweight, native set of tools that bring the full feature set of the Git SCM to Windows while providing appropriate user interfaces for experienced Git users and novices alike.' Below this paragraph is the heading 'Git BASH' and another paragraph: 'Git for Windows provides a BASH emulation used to run Git from the command line. \*NIX users should feel right at home, as the BASH emulation behaves just like the "git" command in LINUX and UNIX environments.' To the right of this text is a small terminal window showing the output of the 'git' command in a Windows command prompt.

## 4. Git & Slack

### Git

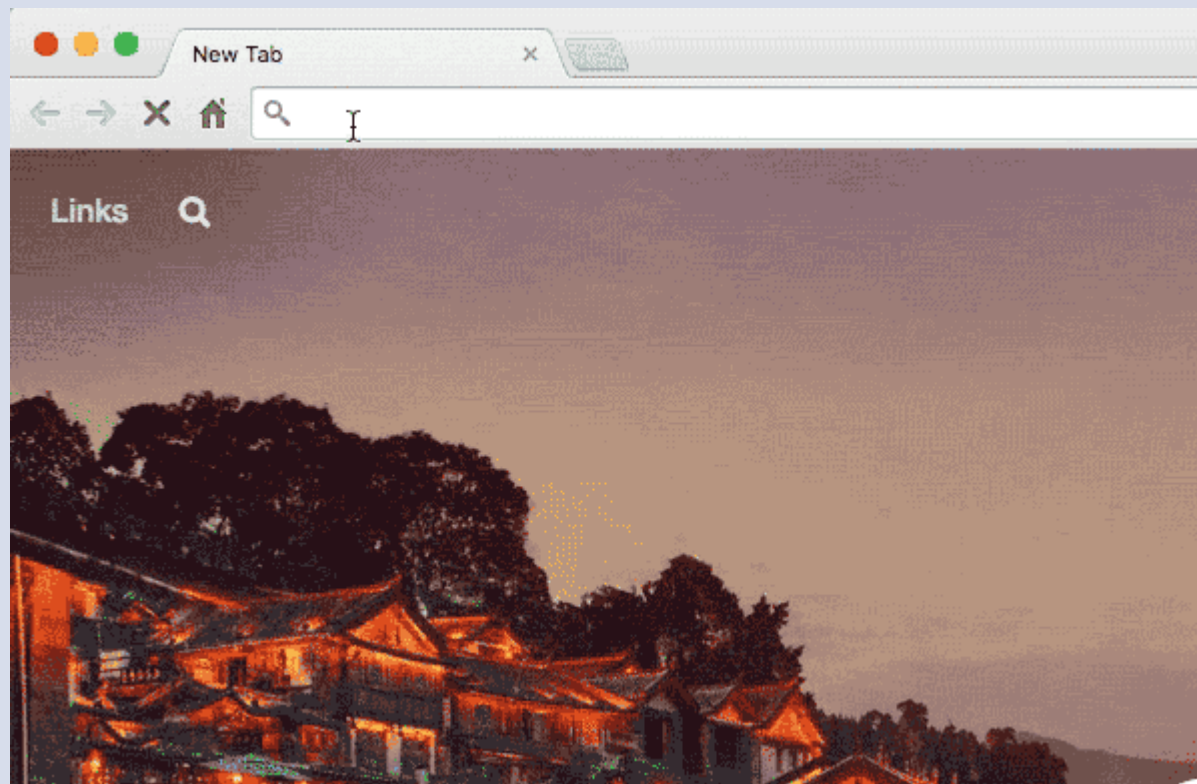
- Git 설치화면



## 4. Git & Slack

### Github

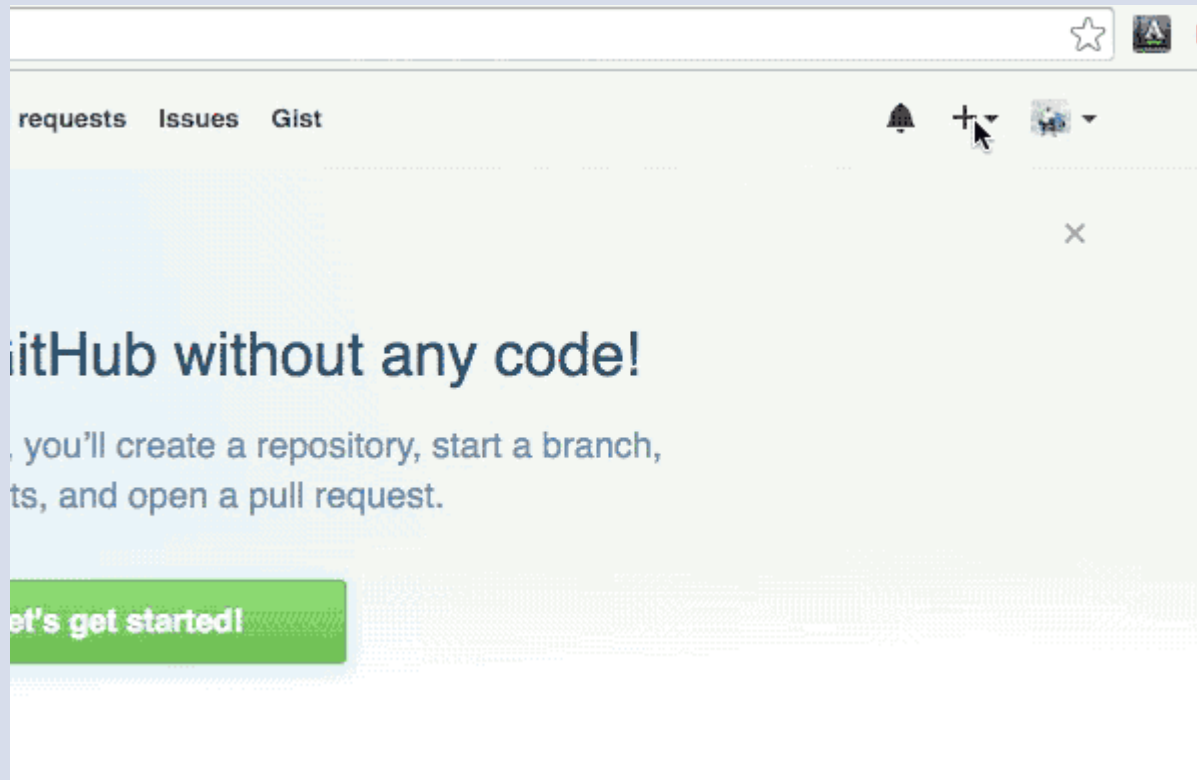
- Github 접속



## 4. Git & Slack

### Github

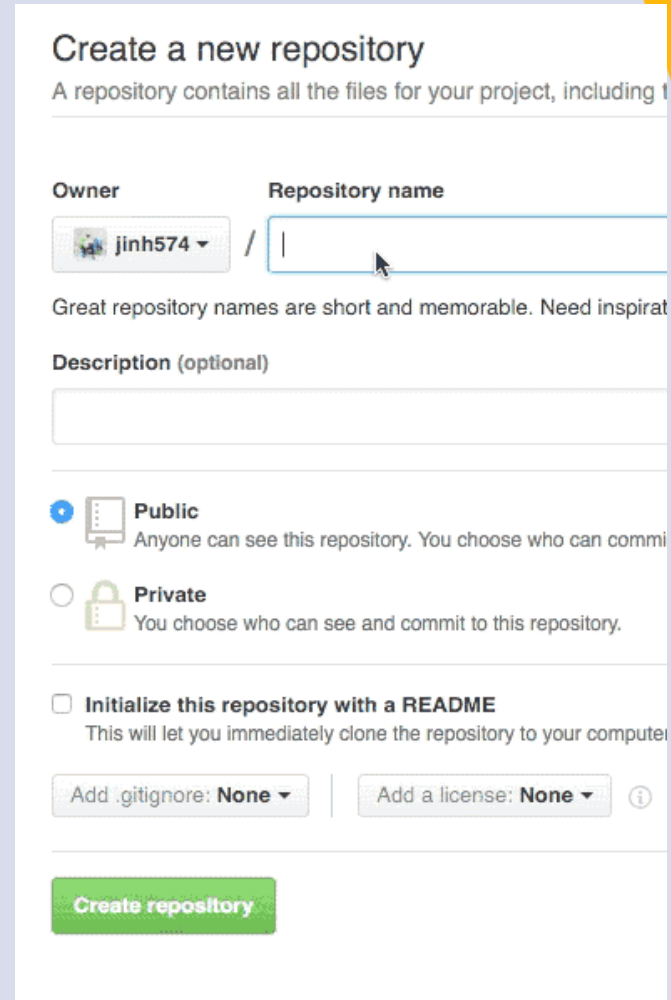
- Github Repository 생성 버튼



## 4. Git & Slack

### Github

- Github Repository 이름 지정 후 생성

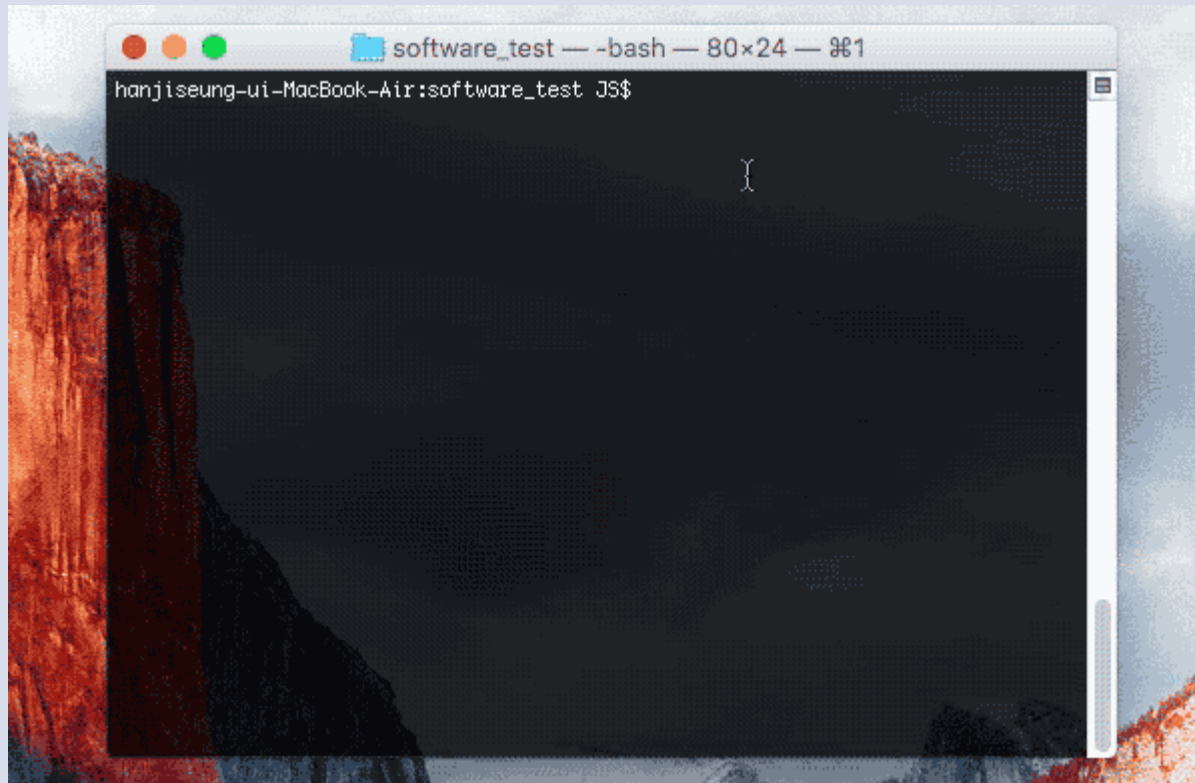


The screenshot shows the GitHub 'Create a new repository' form. At the top, it says 'Create a new repository' and 'A repository contains all the files for your project, including...'. Below this, there are two main sections: 'Owner' and 'Repository name'. The 'Owner' section shows a dropdown menu with 'jinh574' selected. The 'Repository name' section has an empty text input field with a cursor. Below these fields, there is a note: 'Great repository names are short and memorable. Need inspirat...'. The 'Description (optional)' section has an empty text area. The 'Visibility' section has two radio buttons: 'Public' (selected) and 'Private'. The 'Public' option is described as 'Anyone can see this repository. You choose who can commi...'. The 'Private' option is described as 'You choose who can see and commit to this repository.'. Below this, there is a checkbox for 'Initialize this repository with a README', which is currently unchecked. A note below the checkbox says 'This will let you immediately clone the repository to your comput...'. At the bottom, there are two dropdown menus: 'Add .gitignore: None' and 'Add a license: None'. There is also an information icon (i) to the right of the license dropdown. At the very bottom, there is a green 'Create repository' button.

## 4. Git & Slack

### Git

- 프로젝트에 변화를 주고자 파일 생성

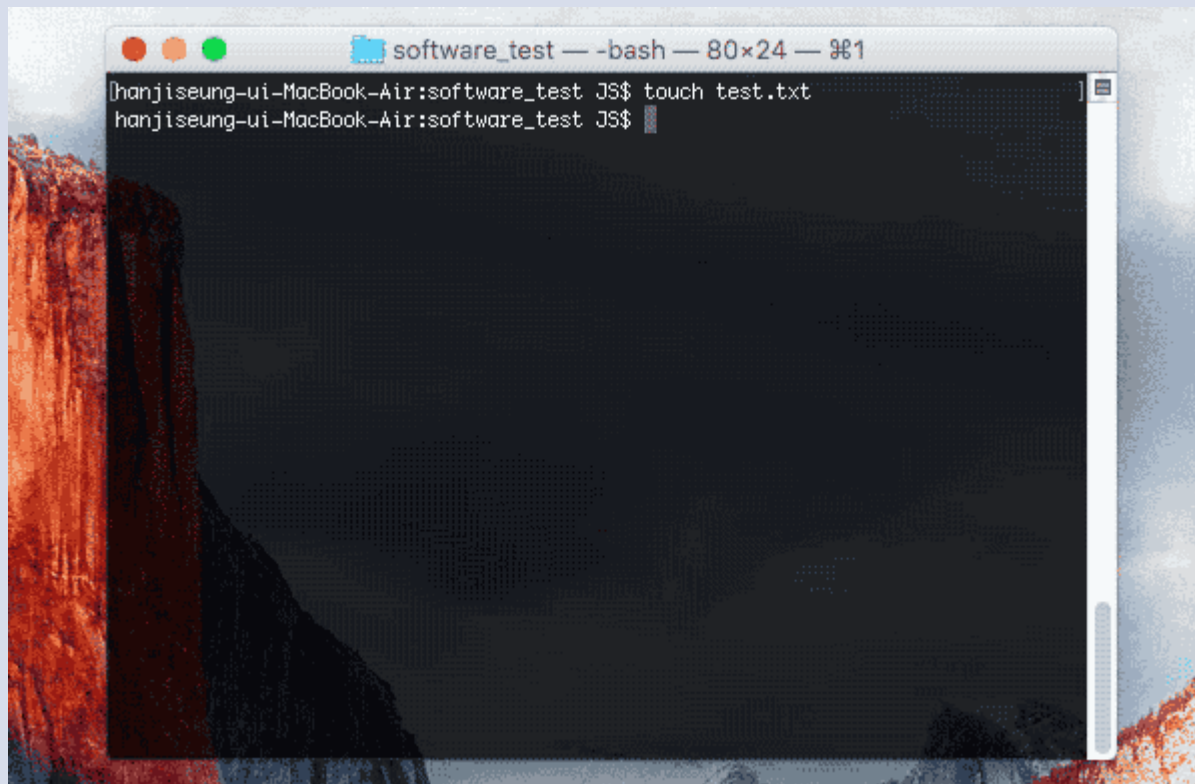




## 4. Git & Slack

### Git

- Git의 관리를 받고자 하는 프로젝트 최상위 폴더로 이동해서 git init 호출  
Git으로 관리하겠다는 명령어

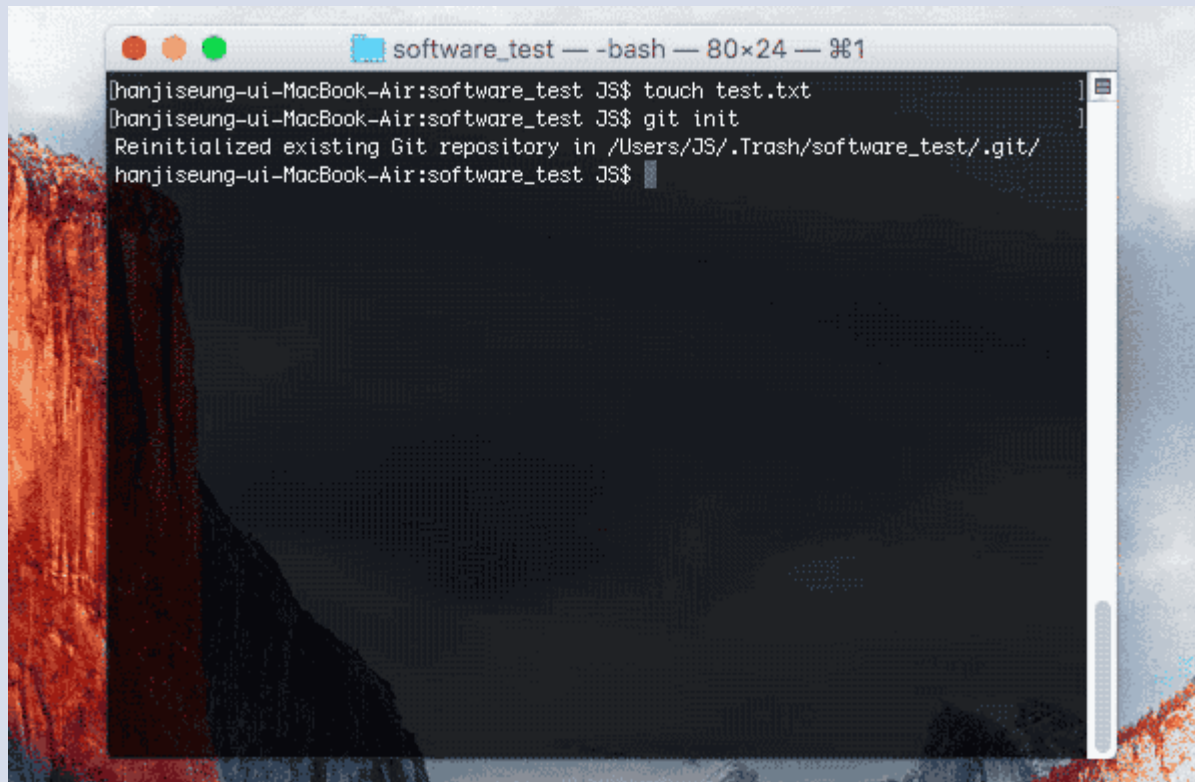


```
software_test — -bash — 80x24 — ㉿1
hanjiseung-ui-MacBook-Air:software_test JS$ touch test.txt
hanjiseung-ui-MacBook-Air:software_test JS$
```

## 4. Git & Slack

### Git

- Git remote를 통해 원격 Repository와 연결

A screenshot of a macOS terminal window titled "software\_test -- bash -- 80x24 -- ㉿1". The terminal shows the following commands and output:

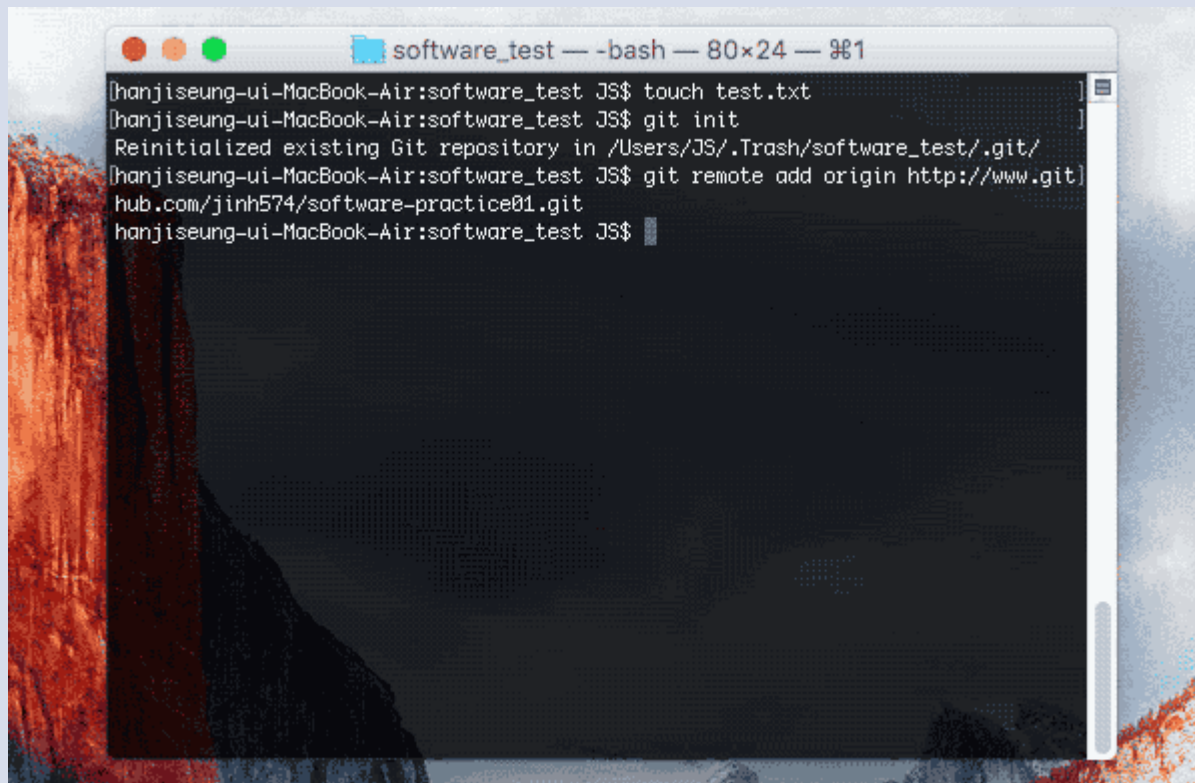
```
[hanjiseung-ui-MacBook-Air:software_test JS$ touch test.txt  
[hanjiseung-ui-MacBook-Air:software_test JS$ git init  
Reinitialized existing Git repository in /Users/JS/.Trash/software_test/.git/  
hanjiseung-ui-MacBook-Air:software_test JS$
```

The terminal background features a scenic image of a waterfall cascading over a rocky cliff.

## 4. Git & Slack

### Git

- Git을 관리하고자 하는 파일을 스테이징 후에 커밋을 통해 스냅샷 생성

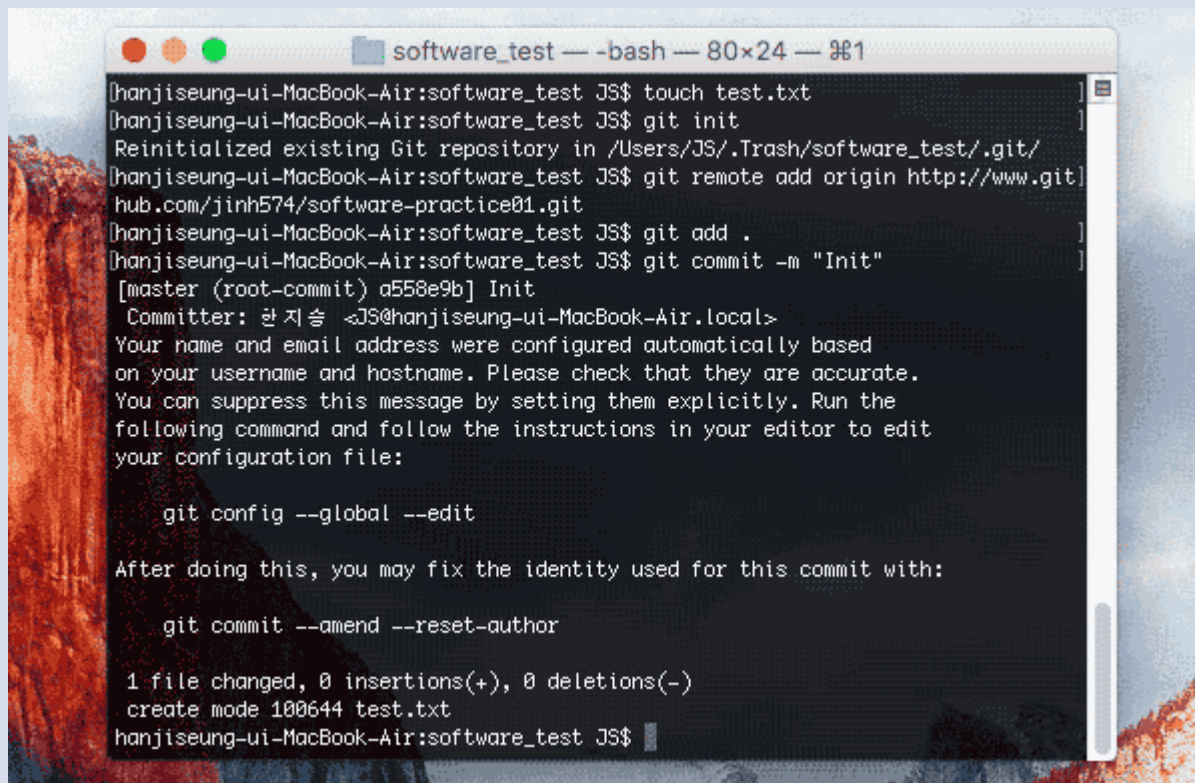


```
software_test — -bash — 80x24 — 981
[hanjiseung-ui-MacBook-Air:software_test JS$ touch test.txt
[hanjiseung-ui-MacBook-Air:software_test JS$ git init
Reinitialized existing Git repository in /Users/JS/.Trash/software_test/.git/
[hanjiseung-ui-MacBook-Air:software_test JS$ git remote add origin http://www.git]
hub.com/jinh574/software-practice01.git
hanjiseung-ui-MacBook-Air:software_test JS$
```

## 4. Git & Slack

### Git

- 원격 Repository에 커밋한 내용을 전달

A terminal window titled 'software\_test -- -bash -- 80x24 -- ㄹ1' showing the execution of Git commands. The user creates a file 'test.txt', initializes a Git repository, adds the file, and commits it with the message 'Init'. The terminal output shows the commit details, including the commit hash 'a558e9b' and the committer's name '한지승'.

```
hanjiseung-ui-MacBook-Air:software_test JS$ touch test.txt
hanjiseung-ui-MacBook-Air:software_test JS$ git init
Reinitialized existing Git repository in /Users/JS/.Trash/software_test/.git/
hanjiseung-ui-MacBook-Air:software_test JS$ git remote add origin http://www.git[
hub.com/jinh574/software-practice01.git
hanjiseung-ui-MacBook-Air:software_test JS$ git add .
hanjiseung-ui-MacBook-Air:software_test JS$ git commit -m "Init"
[master (root-commit) a558e9b] Init
Committer: 한지승 <JS@hanjiseung-ui-MacBook-Air.local>
Your name and email address were configured automatically based
on your username and hostname. Please check that they are accurate.
You can suppress this message by setting them explicitly. Run the
following command and follow the instructions in your editor to edit
your configuration file:

    git config --global --edit

After doing this, you may fix the identity used for this commit with:

    git commit --amend --reset-author

1 file changed, 0 insertions(+), 0 deletions(-)
create mode 100644 test.txt
hanjiseung-ui-MacBook-Air:software_test JS$
```

## 4. Git & Slack

### Slack

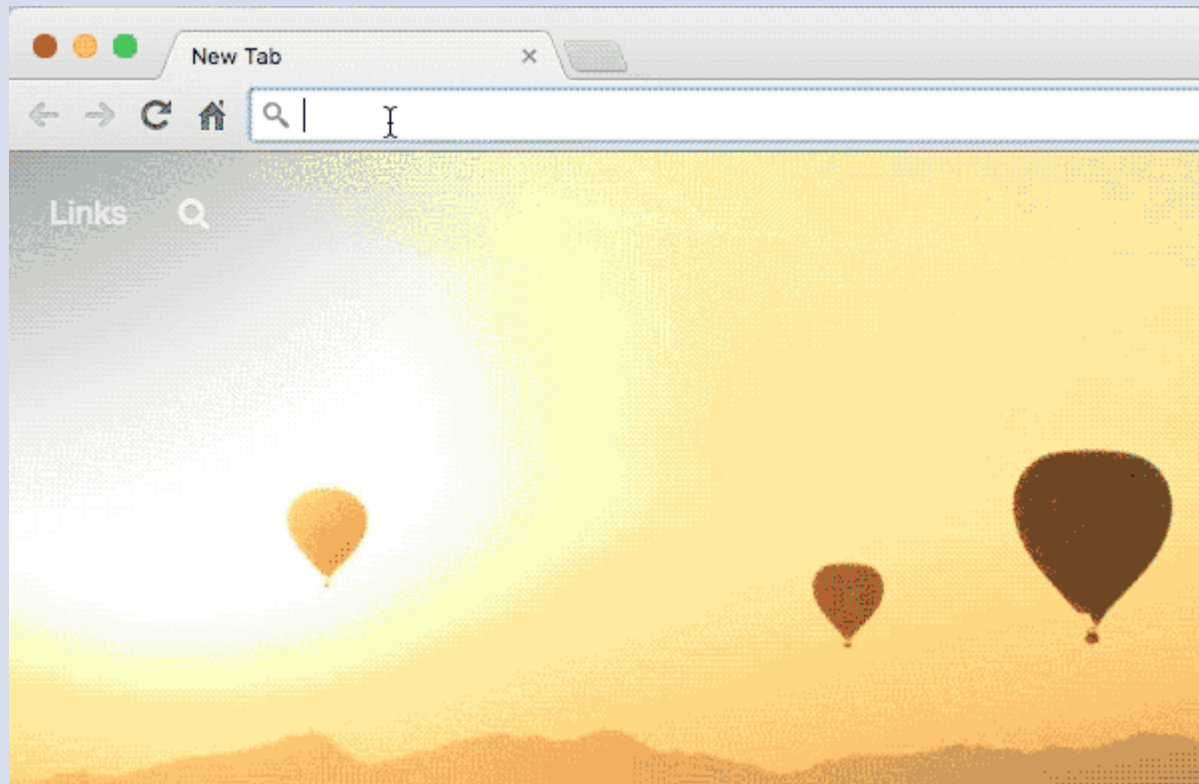
- 사내 통합용 메신저로 팀 단위 소통을 위한 업무용 메신저를 분리하고 여러 툴들과 통합 플러그인을 지원하여 업무관련 채팅, 스케줄, 알림을 통합적으로 관리 할 수 있는 장점을 가지고 있다.



## 4. Git & Slack

### Salck

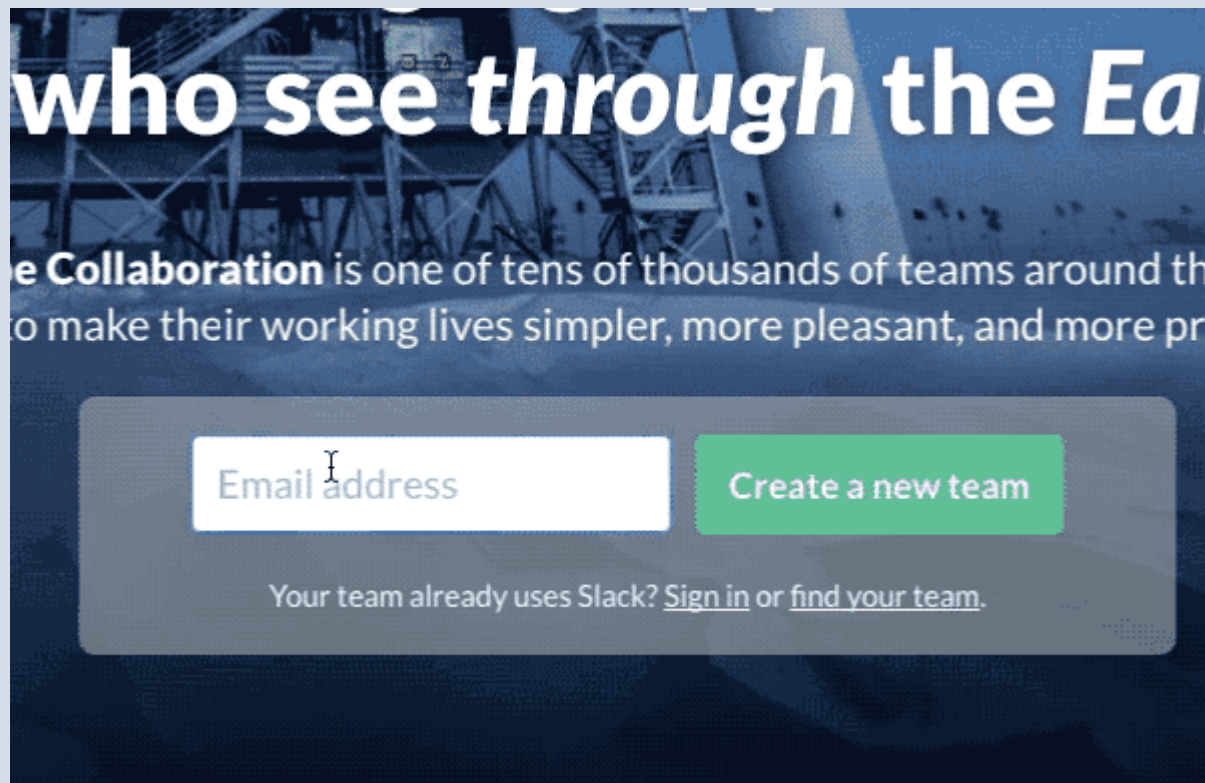
- Slack 홈페이지 접속



## 4. Git & Slack

### Slack

- 팀 메시지를 사용하기 위한 이메일 등록



## 4. Git & Slack

### Salck

- 팀 관련 정보를 입력 후 생성

What do you want to call your Slack team?

Name your team after the group that will be Slack together.

**Work at a large company?** Try using the name of your division, instead of your company name.

Slack team name (you can change this later)

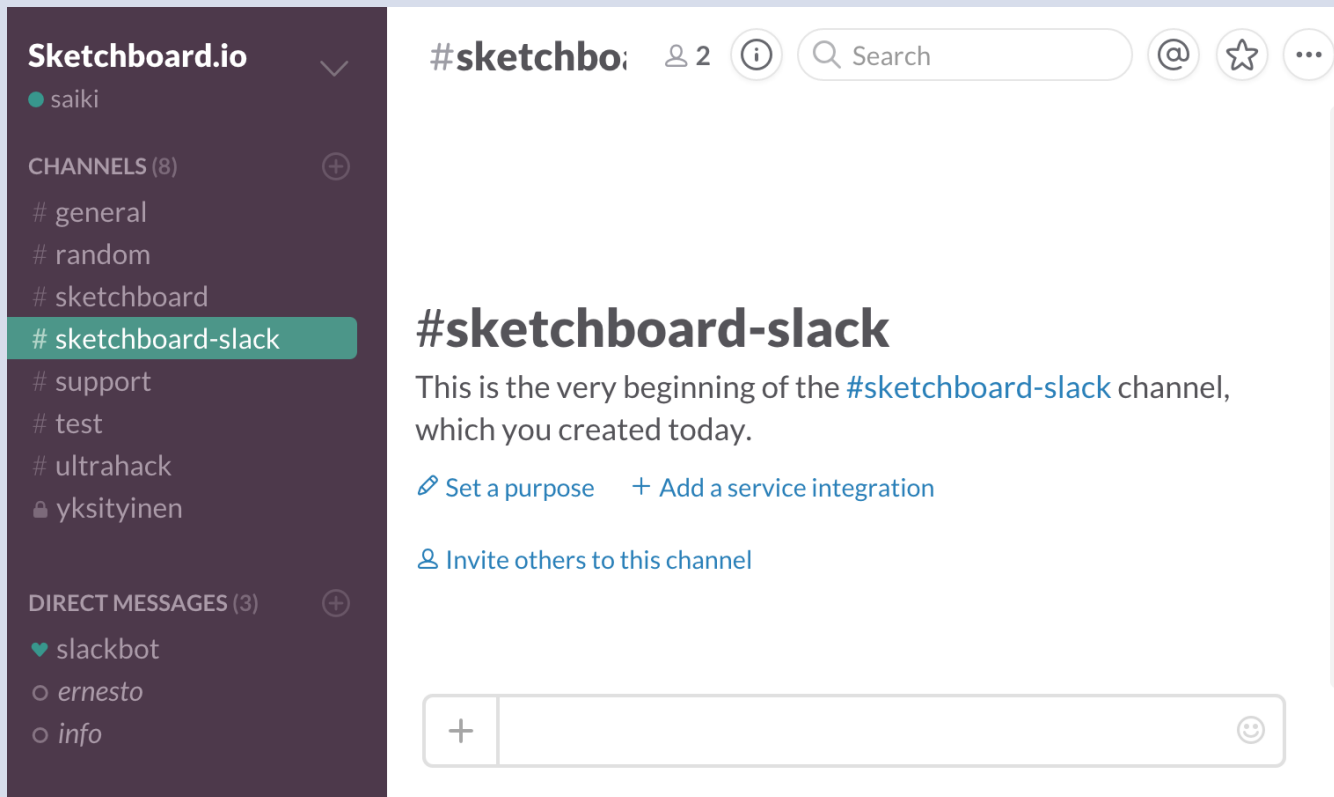
Next →



## 4. Git & Slack

### Salck

- 업무 별로 다시 채널을 나누어 소통이 가능



The screenshot shows a Slack interface. On the left is a dark sidebar with the workspace name 'Sketchboard.io' and a list of channels. The channel '# sketchboard-slack' is highlighted in green. Below the channels are 'DIRECT MESSAGES (3)' including 'slackbot', 'ernesto', and 'info'. The main area shows the channel header '#sketchbo:' with 2 members, a search bar, and icons for mentions, stars, and more options. The channel name '#sketchboard-slack' is displayed in large bold text. Below it is a welcome message: 'This is the very beginning of the #sketchboard-slack channel, which you created today.' There are two links: 'Set a purpose + Add a service integration' and 'Invite others to this channel'. At the bottom is a message input field with a plus icon on the left and a smiley face icon on the right.



5

## JFeature & Sonarqube

- 1) JFeature
- 2) Sonarqube

## 5. JFeature & Sonarqube

### JFeature

- Requirement Coverage Tool 중 하나
- Junit의 Test Case를 기반으로 동작
- 개발하는 코드에 해당하는 요구사항에 초점
- 요구사항을 작성 후, 개발 된 Test Code와 요구사항을 매칭 시킴

**J**<sub>F</sub> JFeature

## 5. JFeature & Sonarqube

### JFeature

- Eclipse의 Plug-in 형태
- Junit과 연동
- Ant와 연동 - Build에 맞춰 전체 프로젝트의 Requirement Coverage를 생성
- Refactoring - Unit Test의 변경 사항에 따라 Requirement를 변경
- 요구사항 정의는 xml, csv 형태로 저장

**J**<sub>**F**</sub> JFeature

# 5. JFeature & Sonarqube

## JFeature

- Technobuff에서 제공하며 도구 자체는 무료지만 Commercial Version에서는 더 향상된 인터페이스를 제공하며, 더 다양한 리포트 포맷을 제공

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**Welcome to Technobuff!**  
*We aspire to develop solutions that help in improving efficiency and productivity.*

**Solution Offerings**  
Our solution offerings come in following forms:

- Specialized Products
- Specialized Java/J2EE consulting
- Eclipse technology based solutions
- Support Subscriptions for our open source products
- Product customization for our open source products

+ AppTale V1.2 released  
+ JFeature V1.2 released  
+ technobuff-utils V1.0 released

**Open Source Contributions**  
We strongly believe in open source development and are glad to contribute to the community. Our open source contributions include

- [JFeature](#) - Requirements Coverage tool
- [AppTale](#) - Application learning framework
- [technobuff-utils](#) - Common Java Utilities

And, this is just the beginning. We look forward to contributing more and more.

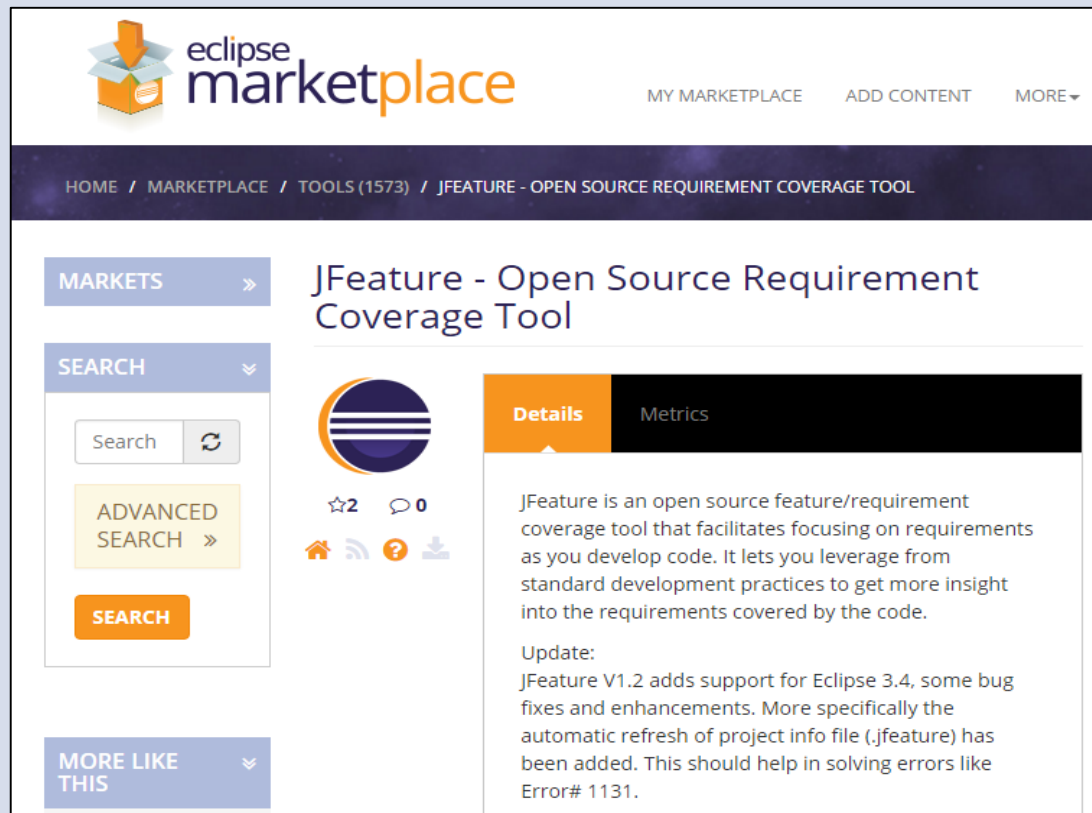
Interested in making your application smarter?  
Develop self-learning applications with [AppTale](#) - an open source light weight application learning framework.

Does your code really meet your

# 5. JFeature & Sonarqube

## JFeature

- 도구는 Eclipse의 Plug-in 형태로 제공
- 하지만 출시 된지 오래된 도구라서 하위 버전의 Eclipse를 사용 필요



The screenshot shows the Eclipse Marketplace interface. At the top, the Eclipse Marketplace logo is visible, along with navigation links for 'MY MARKETPLACE', 'ADD CONTENT', and 'MORE'. Below the logo, a breadcrumb trail reads 'HOME / MARKETPLACE / TOOLS (1573) / JFEATURE - OPEN SOURCE REQUIREMENT COVERAGE TOOL'. The main content area features a search bar with a 'SEARCH' button and an 'ADVANCED SEARCH' link. To the right, the tool's title 'JFeature - Open Source Requirement Coverage Tool' is displayed. Below the title, there is a circular icon with three horizontal lines, a star rating of 2, and a comment count of 0. A 'Details' tab is selected, showing a description: 'JFeature is an open source feature/requirement coverage tool that facilitates focusing on requirements as you develop code. It lets you leverage from standard development practices to get more insight into the requirements covered by the code.' An 'Update' section follows, stating: 'JFeature V1.2 adds support for Eclipse 3.4, some bug fixes and enhancements. More specifically the automatic refresh of project info file (.jfeature) has been added. This should help in solving errors like Error# 1131.'

## 5. JFeature & Sonarqube

### JFeature

- Eclipse Enterprise Edition 4.5.2 Version에서 실행되지 않음
- 즉, 하위 버전의 Eclipse를 설치 필요



## 5. JFeature & Sonarqube

### JFeature

- JFeature Reference를 참고하면 Eclipse 3.3, 3.4 버전에서 지원

## 2. Installation

### 2.1 Pre-requisites

- Java 2 Platform Standard Edition (J2SE) 1.5 or higher
- Eclipse 3.3, 3.4
- ANT 1.6.2 (for *JFeature* ANT task)



# 5. JFeature & Sonarqube

## JFeature

- Eclipse Old Version은 공식 배포처 download URL 접속 시 우측 하단에 존재
- Download 받을 시 크기는 작으나 속도가 매우 느림

### Older Versions Of Eclipse

#### Need help with older versions of Eclipse? **LTS Request**

The following are links to older **Simultaneous Release** packages distributed by the Eclipse Foundation.

- [Eclipse Europa Packages \(2007 - v 3.3\)](#)
- [Eclipse Ganymede Packages \(2008 - v 3.4\)](#)
- [Eclipse Ganymede SR1 Packages \(v 3.4.1\)](#)
- [Eclipse Ganymede SR2 Packages \(v 3.4.2\)](#)
- [Eclipse Galileo Packages \(2009 - v 3.5\)](#)
- [Eclipse Galileo SR1 Packages \(v 3.5.1\)](#)
- [Eclipse Galileo SR2 Packages \(v 3.5.2\)](#)
- [Eclipse Helios Packages \(2010 - v 3.6\)](#)
- [Eclipse Helios SR1 Packages \(v 3.6.1\)](#)

The screenshot shows a list of Eclipse IDEs for download. The 'Eclipse Ganymede Packages (2008 - v 3.4)' link is highlighted in red. Other IDEs shown include Eclipse IDE for C/C++ Developers and Eclipse for PHP Developers. The 'Older Versions' link in the 'MORE DOWNLOADS' section is also highlighted in red.

IDE Name	Platform	32 bit	64 bit
Java EE Developers	Windows	32 bit	64 bit
Java Developers	Windows	32 bit	64 bit
Eclipse IDE for C/C++ Developers	Windows	32 bit	64 bit
Eclipse for PHP Developers	Windows	32 bit	64 bit

**RELATED LINKS**

- Compare & Combine Packages
- New and Noteworthy
- Install Guide
- Documentation
- Updating Eclipse
- Forums

**MORE DOWNLOADS**

- Other builds
- Eclipse Mars (4.5)
- Eclipse Luna (4.4)
- Eclipse Kepler (4.3)
- Eclipse Juno (4.2)
- Older Versions

# 5. JFeature & Sonarqube

## JFeature

- 배포처에서 최신 Version의 JFeature를 다운로드 받아서 압축을 해제한다.

The screenshot shows the JFeature website interface. The top navigation bar includes links for Company, Products, Support, Clients, and Contact. Below the navigation bar, there are links for Login and Free Member Signup. The main content area features the JFeature logo and a button to Rate JFeature @ Eclipse Marketplace. The Introduction section includes a Synopsis and a description of the tool's purpose. A screenshot of the Eclipse IDE shows the JFeature Requirement Coverage Report, which displays a summary of requirement coverage and details for various categories.

**Requirement Coverage Report**

Requirement Coverage Summary

Summary (8)	4 (50%)	1 (12.5%)	1 (12.5%)

Requirement Coverage Details

Sr#	Category	Coverage
1.	Advanced (3)	1 (33.3%)
2.	Basic (4)	1 (25%)

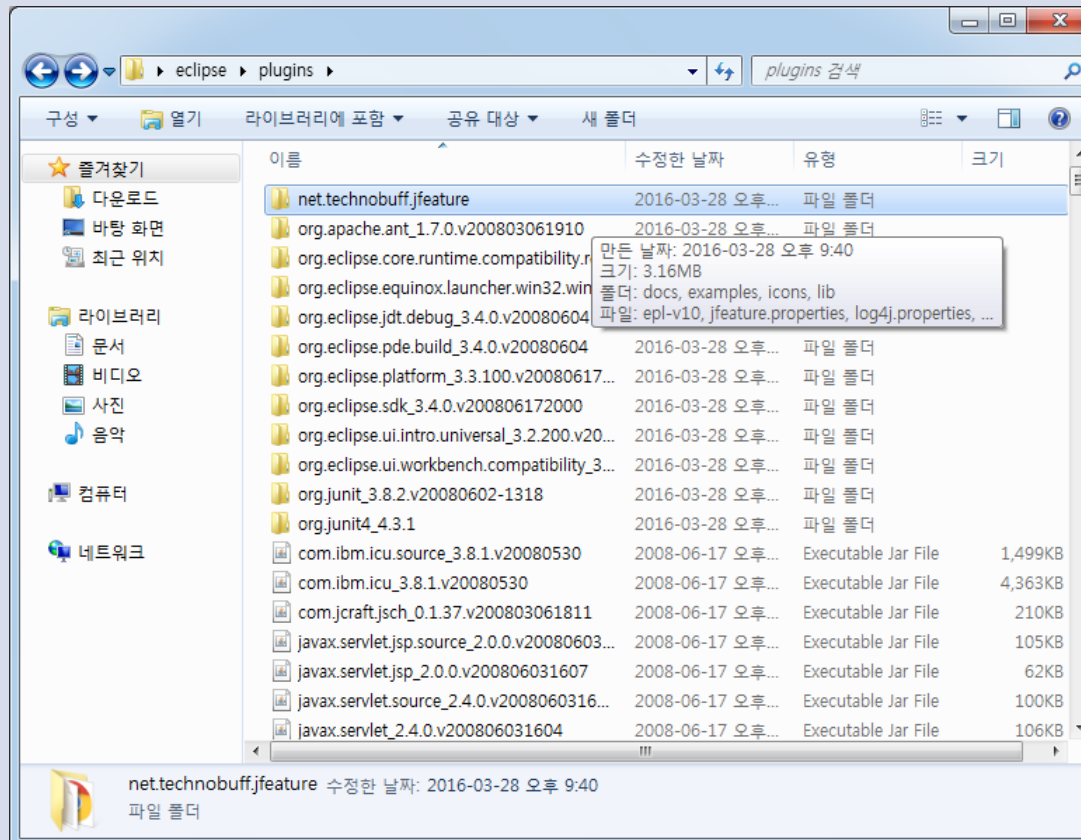
Report generated on Mon, 06 Apr 2007 22:40:53 GMT+05:30

Powered By JFeature

# 5. JFeature & Sonarqube

## JFeature

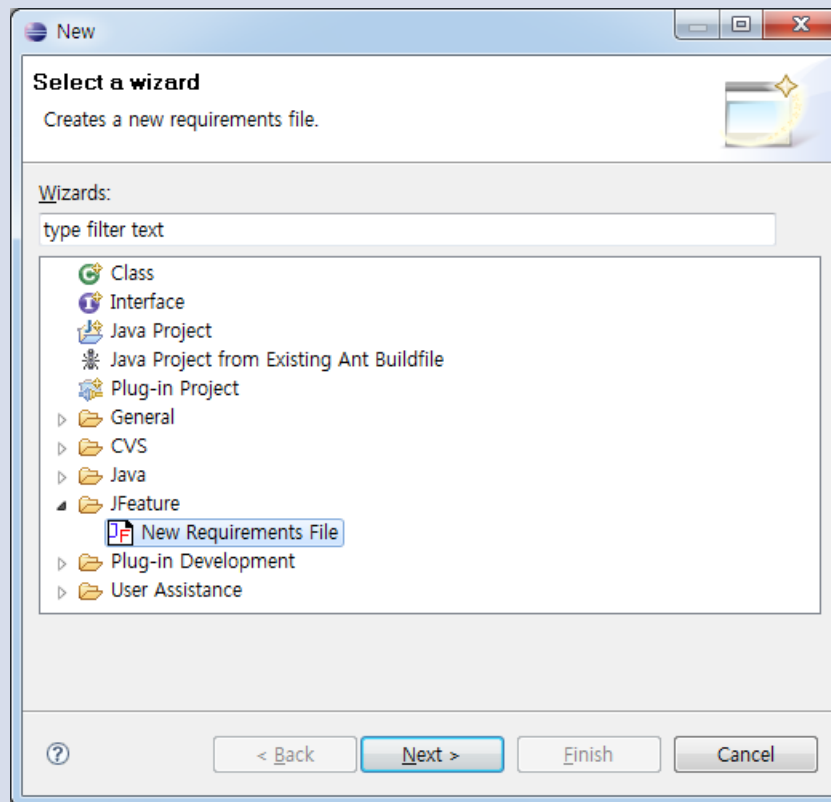
- 압축 해제 후 나온 폴더를 eclipse/plugins 폴더로 옮긴다.



## 5. JFeature & Sonarqube

### JFeature

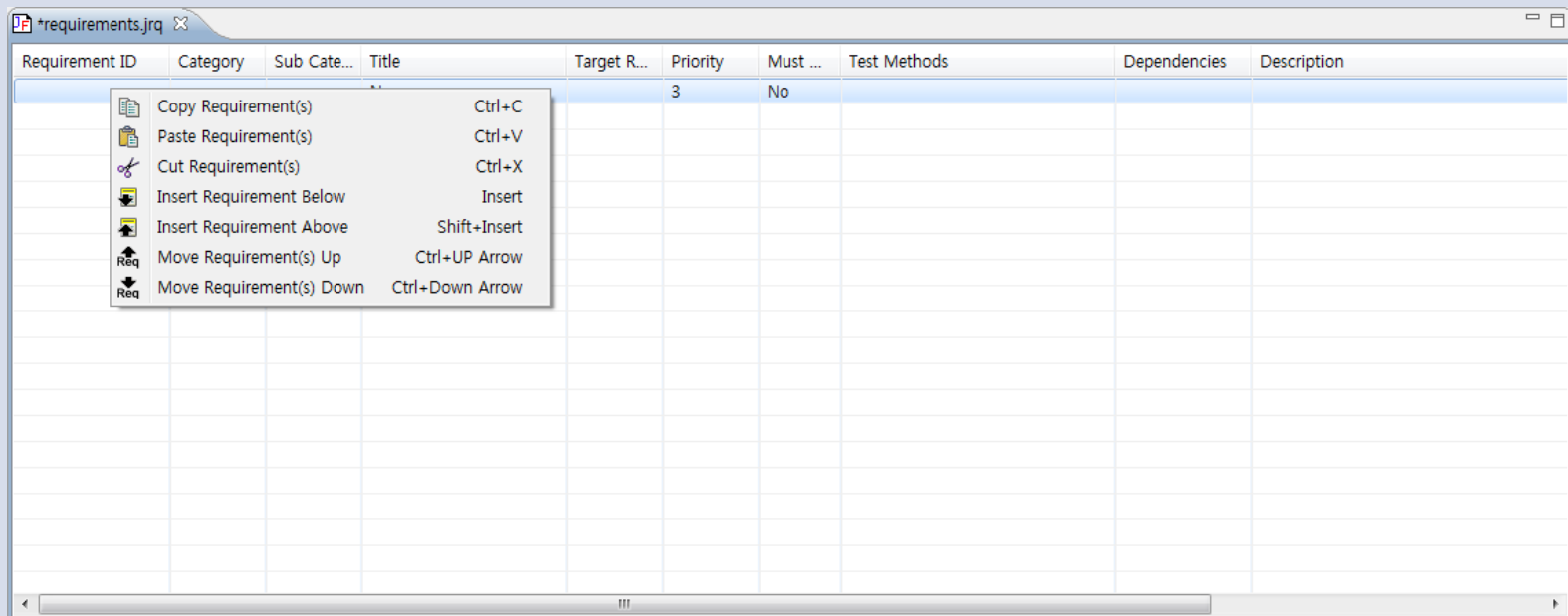
- 이후 Eclipse를 실행하여 New - Others를 선택하면 위와 같이 JFeature Requirements File을 정의 가능



## 5. JFeature & Sonarqube

### JFeature

- Insert Requirement Below/Above를 선택해 요구사항을 추가
- 이후 Junit Test를 수행



# 5. JFeature & Sonarqube

## JFeature

- Requirement Coverage에 대한 보고서

**Requirement Coverage Report**

**Requirement Coverage Summary**

Summary (8)	7 (87.5%)	1 (12.5%)
-------------	-----------	-----------

**Requirement Coverage Details**

Sr#	Category	Coverage
1.	Advanced (3)	2 (66.67%) 1 (33.33%)
2.	Basic (1)	1 (100%)

**All Categories**

- Advanced (66.67%)
- Basic (100%)

**All Requirements**

- Add the numbers. (100%)
- Subtract the num... (100%)
- Multiply the num... (100%)
- Divide the numbe... (100%)
- Generate ceiling... (100%)
- Generate floor Y... (100%)
- Generate absolut... (100%)
- Generate log of ... (0%)

Report generated on: 2015-11-01 11:55:07 KST

## 5. JFeature & Sonarqube

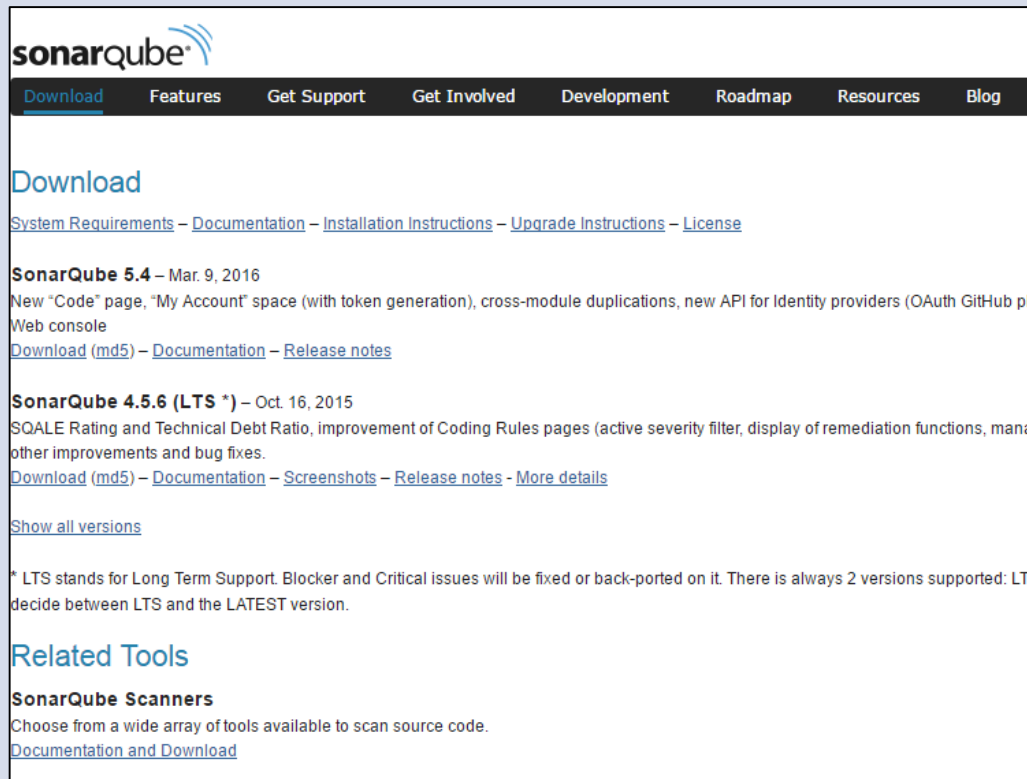
### Sonarqube

- Source Code Static Analysis Tool 중에 하나
- 소스코드의 지속적인 품질 관리를 위한 도구
- JAVA 기반의 소스코드 정적 분석 도구
- 특징
  - 여러 분석 툴을 통합하여 여러 항목들을 한 번에 검색 가능
  - 웹 페이지에서 분석 결과들을 한 눈에 보기 쉬움
  - Plug-in을 이용하여 다양한 기능 제공

# 5. JFeature & Sonarqube

## Sonarqube

- <http://www.sonarqube.org/downloads/>에서 다운로드 가능
- Plug-in도 다운로드 가능



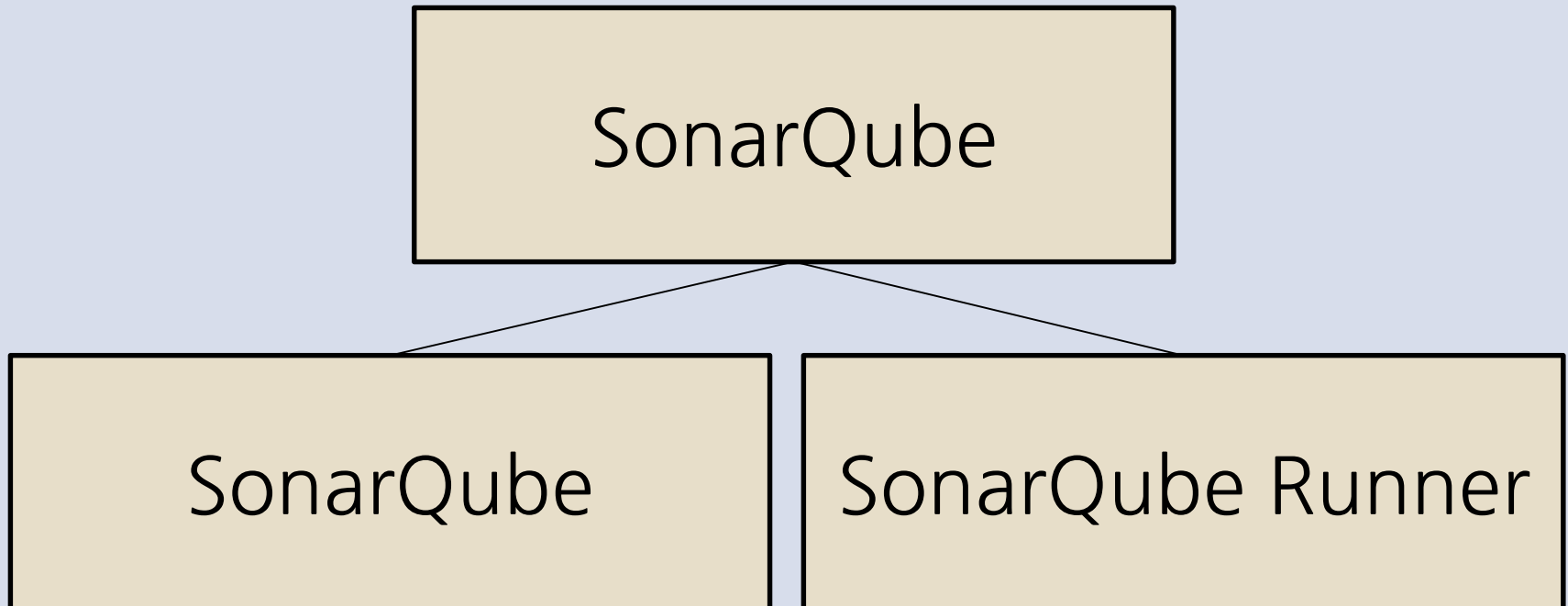
The screenshot shows the SonarQube website's download page. At the top, there is a navigation bar with links for Download, Features, Get Support, Get Involved, Development, Roadmap, Resources, and Blog. The main heading is "Download", followed by a list of links: System Requirements, Documentation, Installation Instructions, Upgrade Instructions, and License. Below this, two release announcements are visible: "SonarQube 5.4" (dated Mar. 9, 2016) and "SonarQube 4.5.6 (LTS \*)" (dated Oct. 16, 2015). Each announcement includes a brief description of new features and a link to the download page. A "Show all versions" link is also present. At the bottom, there is a section for "Related Tools" titled "SonarQube Scanners" with a link to "Documentation and Download".



## 5. JFeature & Sonarqube

### Sonarqube

- SonarQube는 크게 SonarQube와 SonarQube Runner로 분류
- 단순히 결과를 보여주는 것과 대상 소스를 분석하는 명령어가 있는 것으로 분류



## 5. JFeature & Sonarqube

### Sonarqube

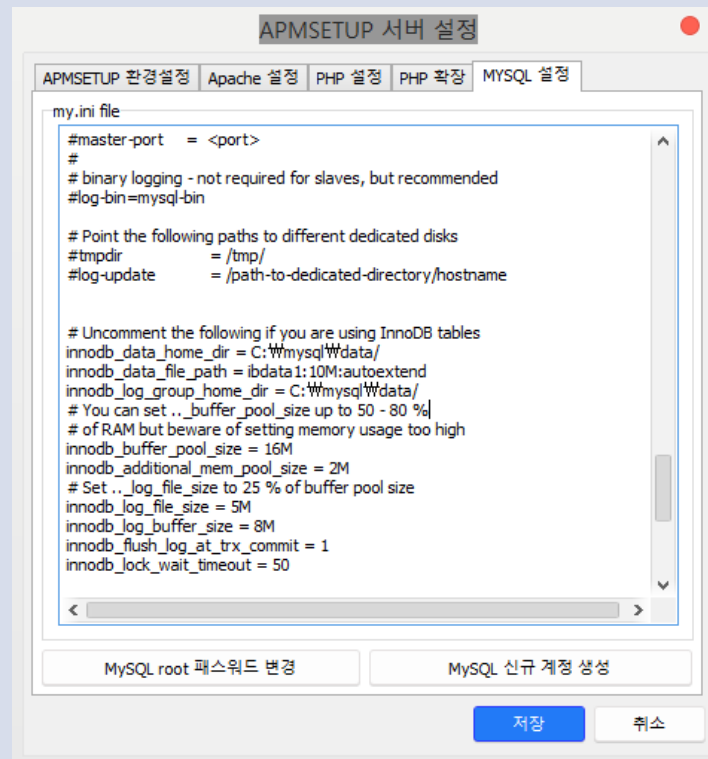
- 배포처에서 Download 받은 파일의 압축을 해제하면 아래와 같은 파일들이 존재

이름	수정한 날짜	유형	크기
bin	2016-03-28 오후...	파일 폴더	
conf	2016-03-28 오후...	파일 폴더	
data	2016-03-28 오후...	파일 폴더	
extensions	2016-03-28 오후...	파일 폴더	
lib	2016-03-28 오후...	파일 폴더	
logs	2016-03-28 오후...	파일 폴더	
temp	2016-03-28 오후...	파일 폴더	
web	2016-03-28 오후...	파일 폴더	
COPYING	2016-03-08 오후...	파일	8KB

## 5. JFeature & Sonarqube

### Sonarqube

- MySQL Database Server에 데이터를 저장하기 위해 위와 같이 옵션을 변경



## 5. JFeature & Sonarqube

### Sonarqube

- MySQL Database Server에 아래와 같이 sonar라는 이름의 Database를 생성

```
C:\Windows\System32>mysql -u root -p
Enter password: *****
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 2
Server version: 5.1.41-community MySQL Community Server (GPL)

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> create database
  -> sonar;
Query OK, 1 row affected (0.00 sec)

mysql> .
```

## 5. JFeature & Sonarqube

### Sonarqube

- MySQL Database Server에 아래와 같이 sonar라는 이름의 사용자를 생성

```
mysql> create user 'sonar';  
Query OK, 0 rows affected (0.00 sec)
```

- MySQL Database Server에 아래와 같이 sonar라는 이름의 Database에 sonar라는 이름의 사용자에게 모든 권한 부여

```
mysql> grant all privileges on `sonar_%`.* to sonar@localhost identified by 'password' with grant option;  
Query OK, 0 rows affected (0.00 sec)
```

## 5. JFeature & Sonarqube

### Sonarqube

- 이후 sonarqube 압축해제 폴더/bin/운영체제 버전 /StartSonarque.bat을 실행

```
C:\Users\Chester\Downloads\sonarqube-5.4\sonarqube-5.4\bin\windows-x86-64>StartSonar.bat
wrapper      --> Wrapper Started as Console
wrapper      |-----|
wrapper      |-----| Launching a JVM...
jvm 1        |-----| Error occurred during initialization of VM
jvm 1        |-----| GC triggered before VM initialization completed. Try increasing NewSize, current value 1536K.
wrapper      |-----| JVM exited while loading the application.
wrapper      |-----| JVM Restarts disabled. Shutting down.
wrapper      |-----| <-- Wrapper Stopped
계속하려면 아무 키나 누르십시오 . . .
```

## 5. JFeature & Sonarqube

### Sonarqube

- Memory 부족으로 인한 오류가 발생 시,  
sonarqube 압축해제 폴더/conf/wrapper.conf을 워드패드 등으로  
열어서 다음과 같이 수정

```
wrapper.java.additional.1=-Djava.awt.headless=true  
wrapper.java.mainclass=org.tanukisoftware.wrapper.WrapperSimple  
App  
wrapper.java.classpath.1=../../lib/jsw/*.jar  
wrapper.java.classpath.2=../../lib/*.jar  
wrapper.java.library.path.1=./lib  
wrapper.app.parameter.1=org.sonar.application.App  
wrapper.java.initmemory=32  
wrapper.java.maxmemory=64
```

# 5. JFeature & Sonarqube

## Sonarqube

- 정상적으로 실행되면 아래와 같은 화면을 볼 수 있다.

```
SonarQube
C:\Users\Chester\Downloads\sonarqube-5.4\sonarqube-5.4\bin\windows-x86-64>StartSonar.bat
wrapper --> Wrapper Started as Console
wrapper Launching a JVM...
jvm 1 Error occurred during initialization of VM
jvm 1 GC triggered before VM initialization completed. Try increasing NewSize, current value 1536K.
wrapper JVM exited while loading the application.
wrapper JVM Restarts disabled. Shutting down.
wrapper <-- Wrapper Stopped
계속하려면 아무 키나 누르십시오 . . .

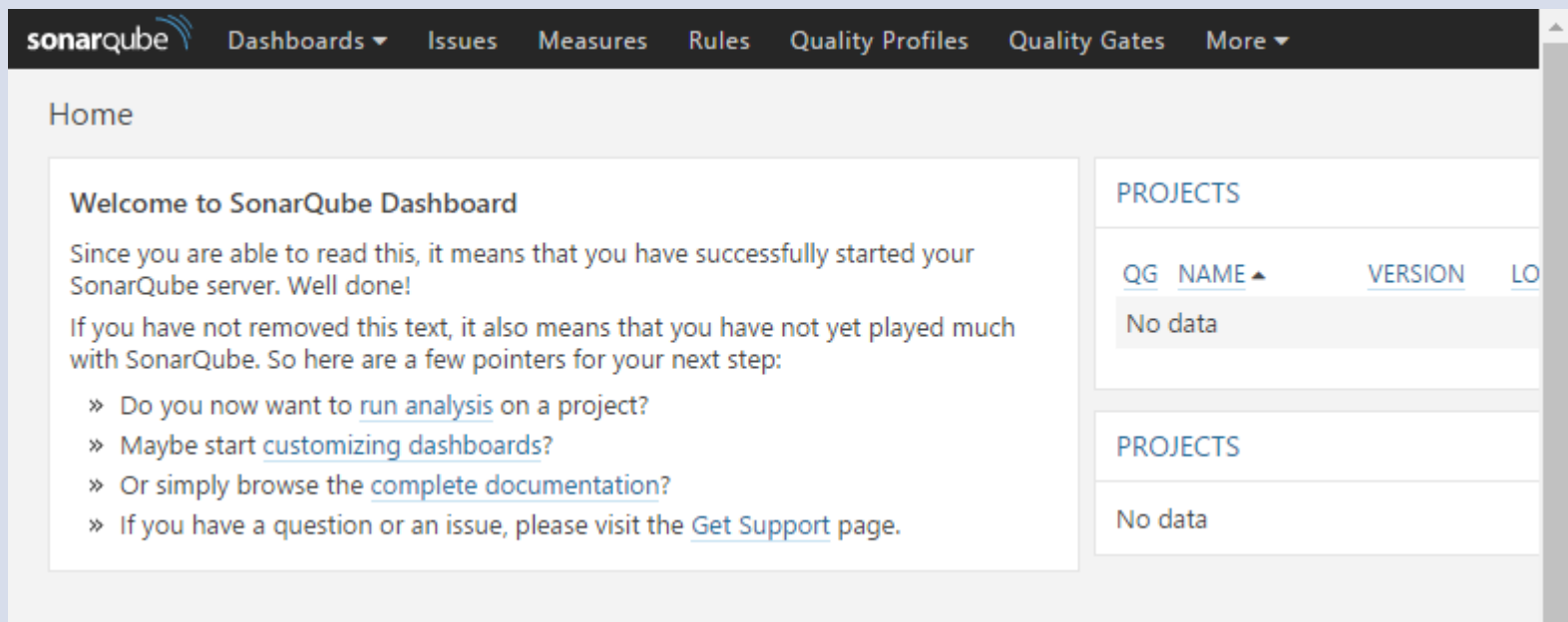
C:\Users\Chester\Downloads\sonarqube-5.4\sonarqube-5.4\bin\windows-x86-64>StartSonar.bat
wrapper --> Wrapper Started as Console
wrapper Launching a JVM...
jvm 1 Wrapper (Version 3.2.3) http://wrapper.tanukisoftware.org
jvm 1 Copyright 1999-2006 Tanuki Software, Inc. All Rights Reserved.
jvm 1
jvm 1 2016.03.28 21:22:15 INFO app[o.s.a.AppFileSystem] Cleaning or creating temp directory C:\Users\Chester\Downloads\
sonarqube-5.4\sonarqube-5.4\temp
jvm 1 | 2016.03.28 21:22:15 INFO app[o.s.p.m.JavaProcessLauncher] Launch process[search]: C:\Program Files\Java\jre1.8.0_
73\bin\java -Djava.awt.headless=true -Xmx1G -Xms256m -Xss256k -Djava.net.preferIPv4Stack=true -XX:+UseParNewGC -XX:+UseConcMa
rkSweepGC -XX:CMSInitiatingOccupancyFraction=75 -XX:+UseCMSInitiatingOccupancyOnly -XX:+HeapDumpOnOutOfMemoryError -Djava.io.
tmpdir=C:\Users\Chester\Downloads\sonarqube-5.4\sonarqube-5.4\temp -cp ./lib/common/*;./lib/search/* org.sonar.search.SearchS
erver C:\Users\Chester\AppData\Local\Temp\sq-process1912721620328340888properties
jvm 1 | 2016.03.28 21:22:22 INFO app[o.s.p.m.Monitor] Process[search] is up
jvm 1 | 2016.03.28 21:22:22 INFO app[o.s.p.m.JavaProcessLauncher] Launch process[web]: C:\Program Files\Java\jre1.8.0_73\
bin\java -Djava.awt.headless=true -Dfile.encoding=UTF-8 -Djruby.management.enabled=false -Djruby.compile.invokedynamic=false
-Xmx768m -Xms256m -XX:MaxPermSize=160m -XX:+HeapDumpOnOutOfMemoryError -Djava.net.preferIPv4Stack=true -Djava.io.tmpdir=C:\Us
ers\Chester\Downloads\sonarqube-5.4\sonarqube-5.4\temp -cp ./lib/common/*;./lib/server/*;C:\Users\Chester\Downloads\sonarqube
-5.4\sonarqube-5.4\lib\jdbc\h2\h2-1.3.176.jar org.sonar.server.app.WebServer C:\Users\Chester\AppData\Local\Temp\sq-process97
0956414984983594properties
```



## 5. JFeature & Sonarqube

### Sonarqube

- 웹 브라우저를 통해 <http://localhost:9000>을 입력하면 Dashboard를 볼 수 있다.



The screenshot shows the SonarQube web interface. At the top is a navigation bar with the SonarQube logo and menu items: Dashboards, Issues, Measures, Rules, Quality Profiles, Quality Gates, and More. Below the navigation bar is the 'Home' section. On the left, there is a 'Welcome to SonarQube Dashboard' message with instructions on how to proceed. On the right, there are two 'PROJECTS' sections, both of which currently display 'No data'.

sonarqube Dashboards ▾ Issues Measures Rules Quality Profiles Quality Gates More ▾

Home

**Welcome to SonarQube Dashboard**

Since you are able to read this, it means that you have successfully started your SonarQube server. Well done!

If you have not removed this text, it also means that you have not yet played much with SonarQube. So here are a few pointers for your next step:

- » Do you now want to [run analysis](#) on a project?
- » Maybe start [customizing dashboards](#)?
- » Or simply browse the [complete documentation](#)?
- » If you have a question or an issue, please visit the [Get Support](#) page.

PROJECTS

QG	NAME ▲	VERSION	LO
No data			

PROJECTS

No data

## 5. JFeature & Sonarqube


### Sonarqube

- Eclipse의 plug-in 형태로 제공  
본 환경에서는 Eclipse의 plug-in을 설치하여 사용




**SonarQube 3.5.0**

This plugin is deprecated and is replaced by SonarLint (<https://marketplace.eclipse.org/content/sonarlint>). [more info](#)



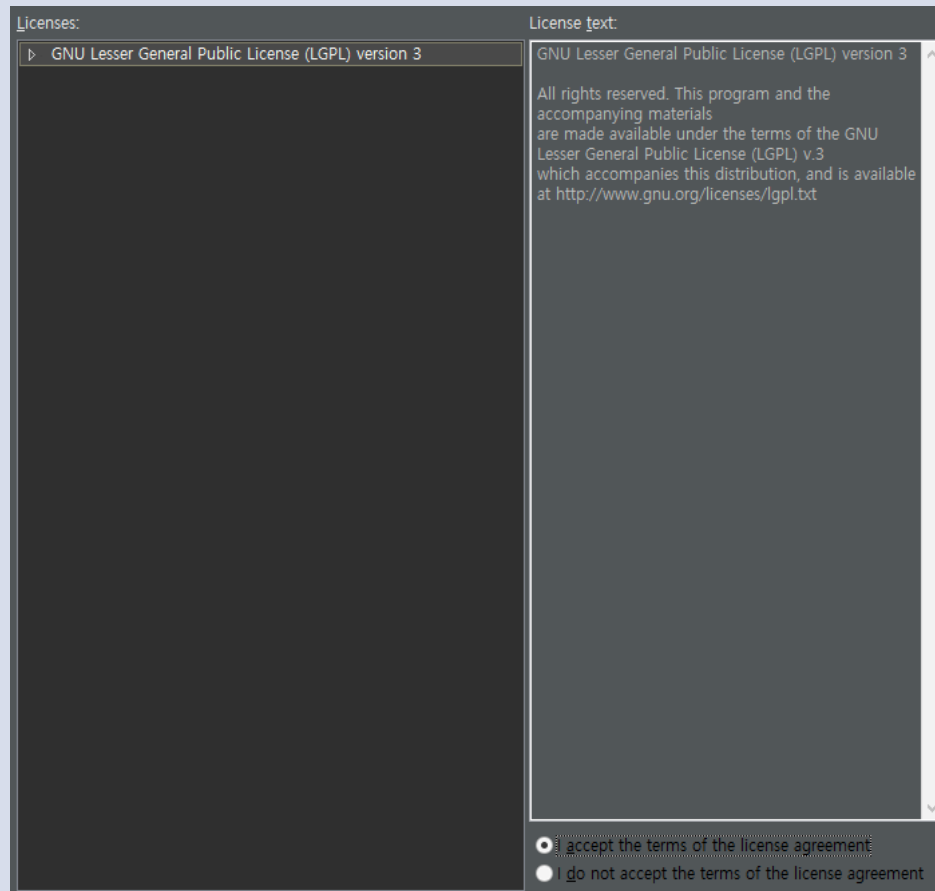
by [SonarSource](#), LGPL

★ 90     Installs: 133K (2,902 last month)    **Install**

## 5. JFeature & Sonarqube

### Sonarqube

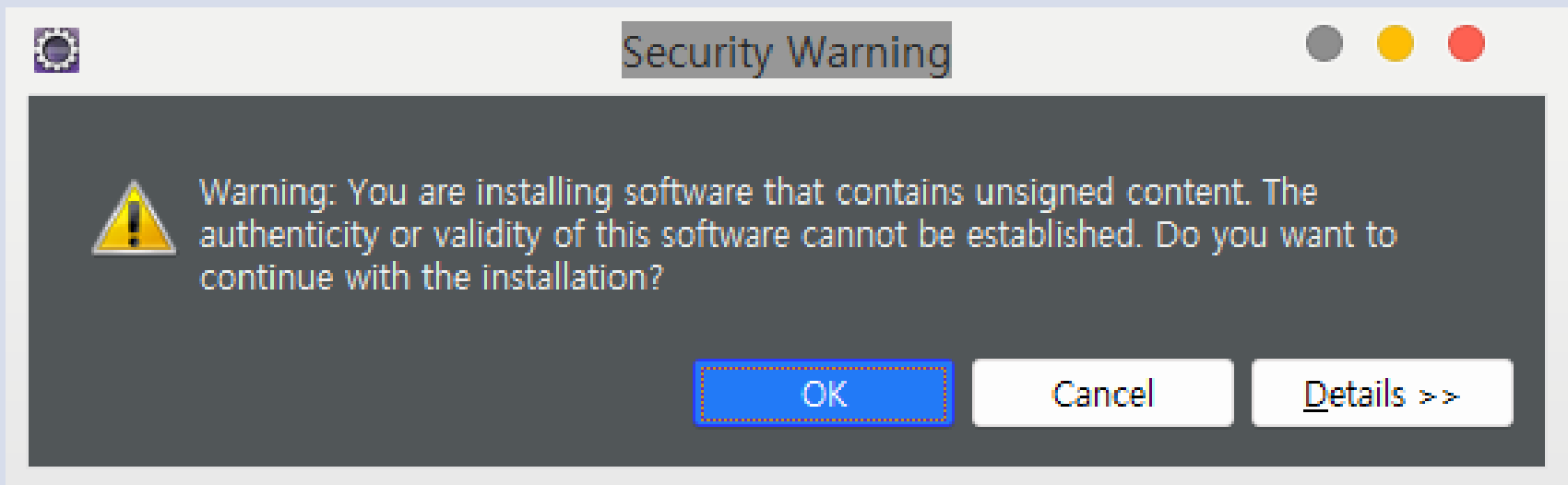
- License 동의 후 Finish 클릭



## 5. JFeature & Sonarqube

### Sonarqube

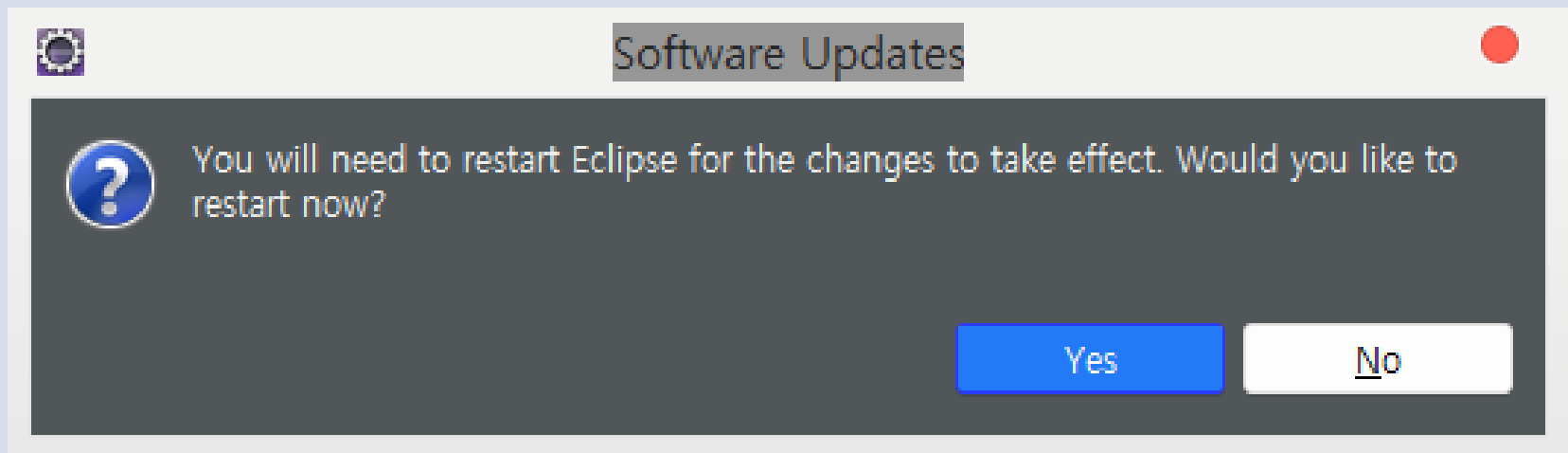
- 지금 설치하는 plug-in이 믿을만한 소프트웨어인지 판단을 위한 Warning이므로 OK를 클릭 후 설치를 계속 진행



## 5. JFeature & Sonarqube

### Sonarqube

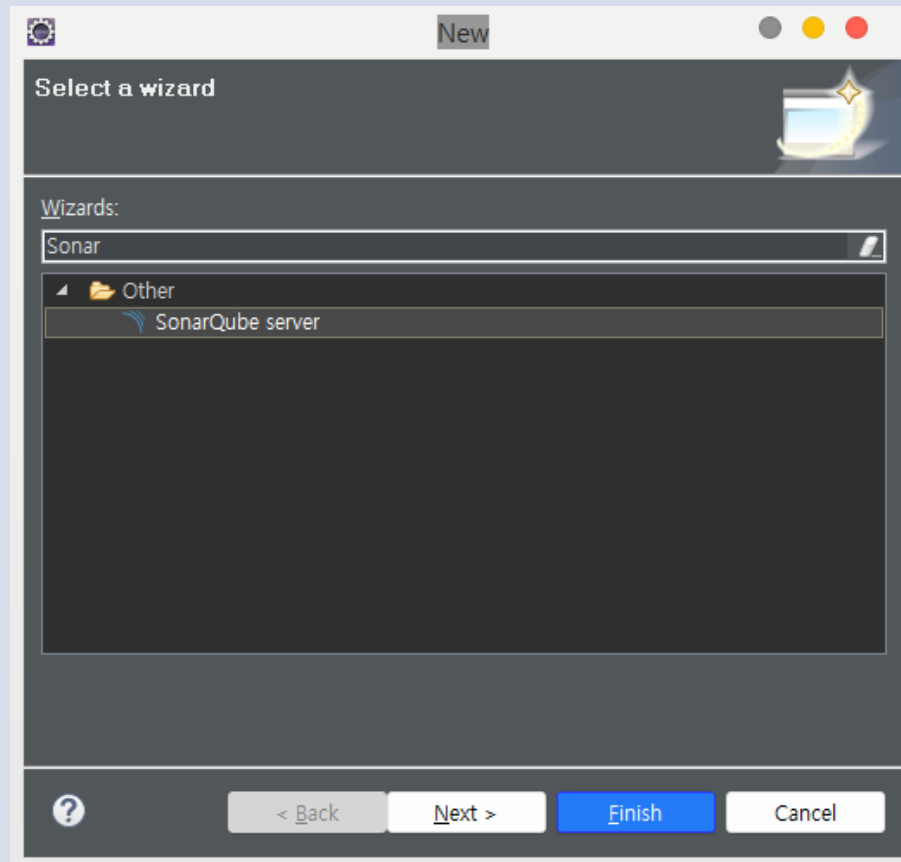
- 설치가 끝나면 Eclipse의 재실행 필요



## 5. JFeature & Sonarqube

### Sonarqube

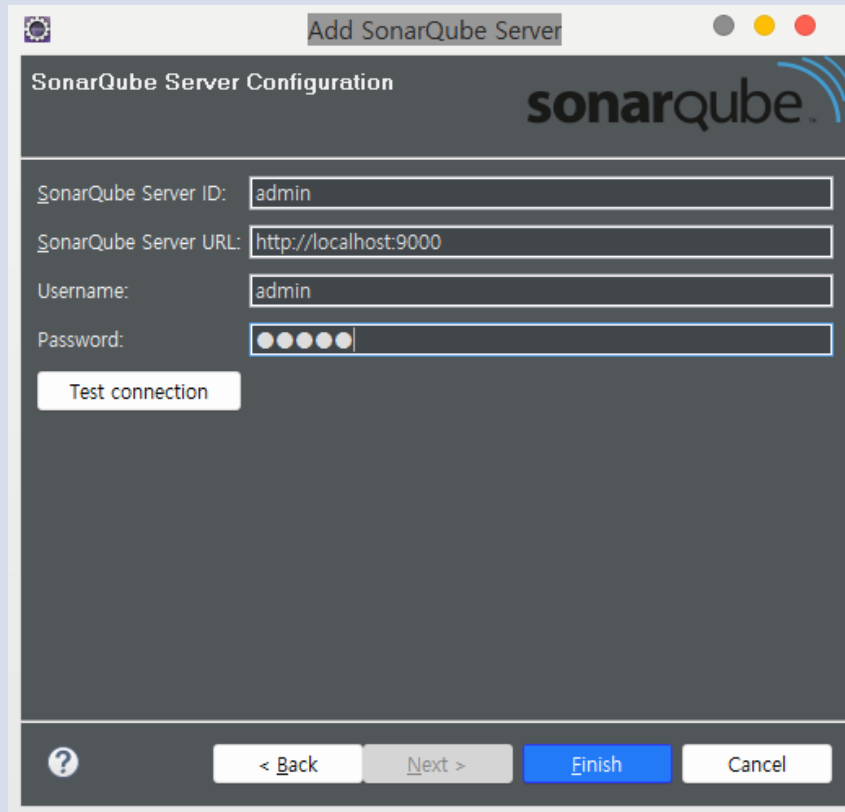
- New – others에서 SonarQube를 입력, SonarQube server를 선택



## 5. JFeature & Sonarqube

### Sonarqube

- Server의 Setting대로 접속하면 연동을 마칩



The image shows a screenshot of a software dialog box titled "Add SonarQube Server". The dialog box has a dark grey background and a white border. At the top left, there is a small icon of a gear. The title bar contains the text "Add SonarQube Server" and three window control buttons (minimize, maximize, close). Below the title bar, the text "SonarQube Server Configuration" is displayed on the left, and the "sonarqube" logo is on the right. The main area of the dialog box contains four input fields: "SonarQube Server ID:" with the value "admin", "SonarQube Server URL:" with the value "http://localhost:9000", "Username:" with the value "admin", and "Password:" with five dots. Below these fields is a "Test connection" button. At the bottom of the dialog box, there is a row of five buttons: a help button (question mark icon), a "< Back" button, a "Next >" button, a "Finish" button (highlighted in blue), and a "Cancel" button.



THANK YOU

Redmine & Jenkins 및 빌드 환경

2016.04.01