

# Software Verification

- 요구사항 관리, 형상관리, 이슈관리, CTIP -



Team 3

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201111360 손준익

201111384 정국빈

# index

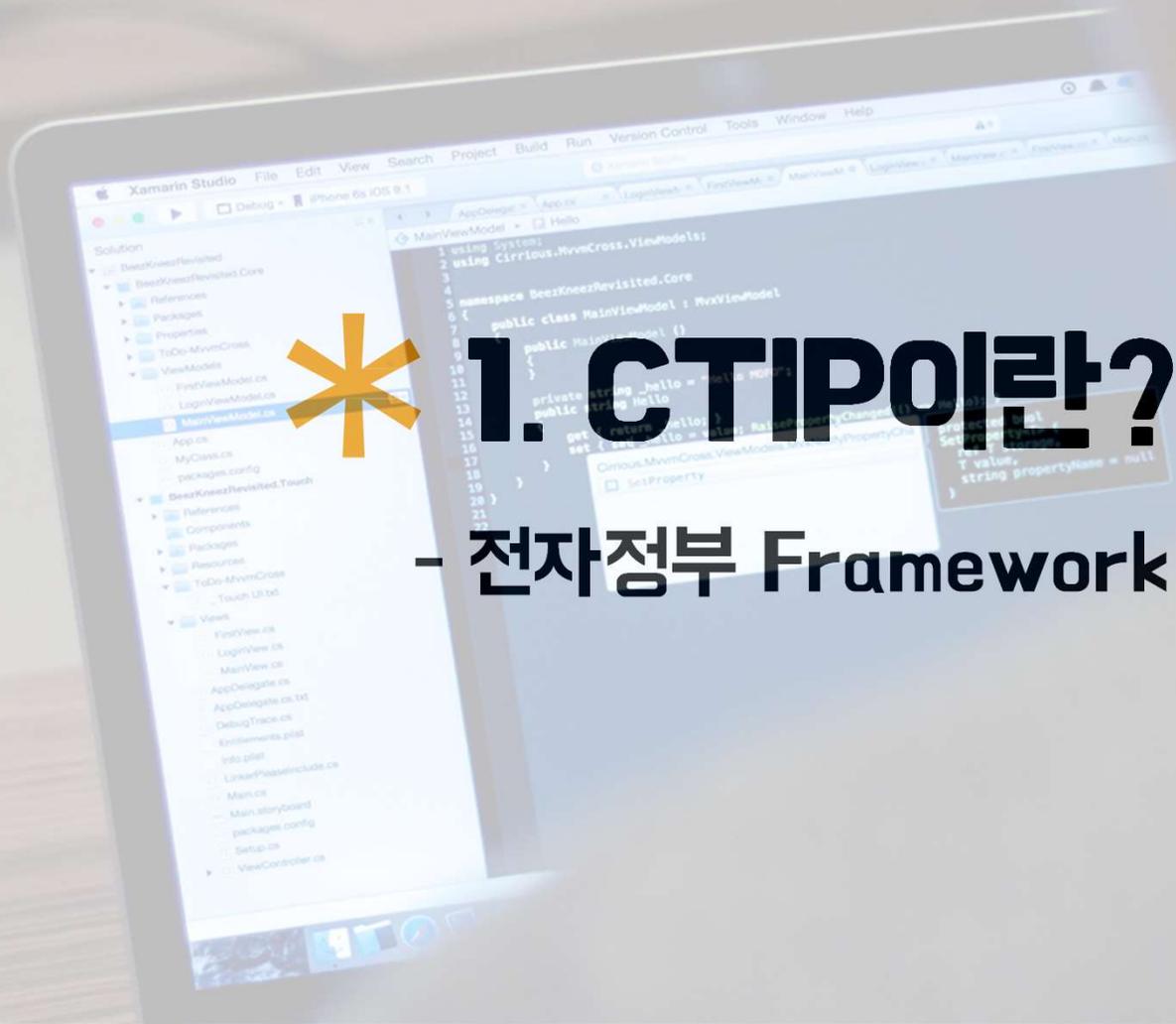
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- \* 1. CTIP이란?
- \* 2. 요구사항 관리 - JFeature
- \* 3. 형상 관리 - Github
- \* 4. 이슈 관리 - Redmine
- \* 5. Jenkins와 연동
- \* 6. CTIP 환경 구축
- \* 7. Q&A

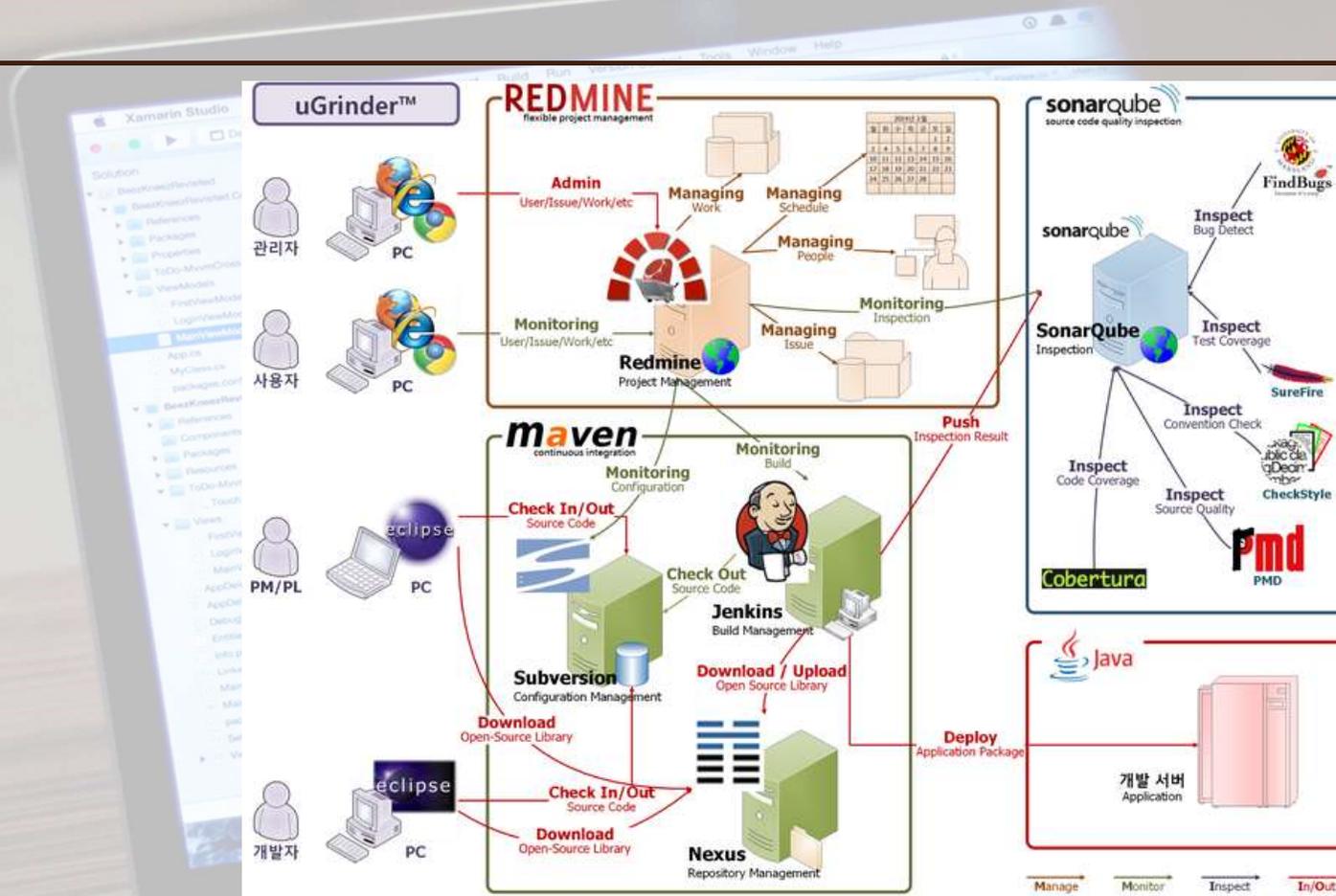


# 1. CTIP이란?

- 전자정부 Framework -



# \* 전자정부 Framework



## \* CTIP 특징



프로젝트의 빌드  
및 소스, 버전관리



Management  
(Issue, People, Work..)



Testing 자동화

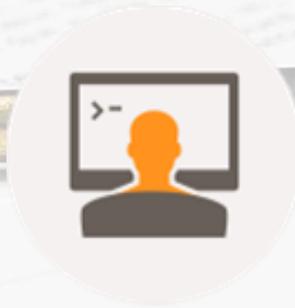
## \* 2. 요구사항 관리

- JFeature -

## \* 요구사항 관리 - Why?



요구사항의 수정



개발 단계 수정



\* 개발비용 30-50% 증가

Boehm & Papaccio 1988

## \* JFeature 특징

---



Eclipse와 연동 가능  
(3.4~4.3V 까지 가능)



요구사항과 JUnit Test case  
Mapping



테스트 결과 Report 문서

# \* JFeature 설치

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We aspire to develop solutions that help in improving efficiency and productivity.

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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

# \* JFeature 설치

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JF JFeature JFeature

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Click here to vote.

## Introduction

### Synopsis

As a Developer: Did you ever want to know which parts of your code map to which requirements? Were you ever in a situation where you were delivering a drop to QA but not sure whether you had covered all the requirements?



Java - requirements.jrj - Eclipse SDK

File Edit Navigate Search Project Run Window Help

Problems Javadoc Declaration Console Error Log JFeature: X

### Requirement Coverage Report

Requirement Coverage Summary

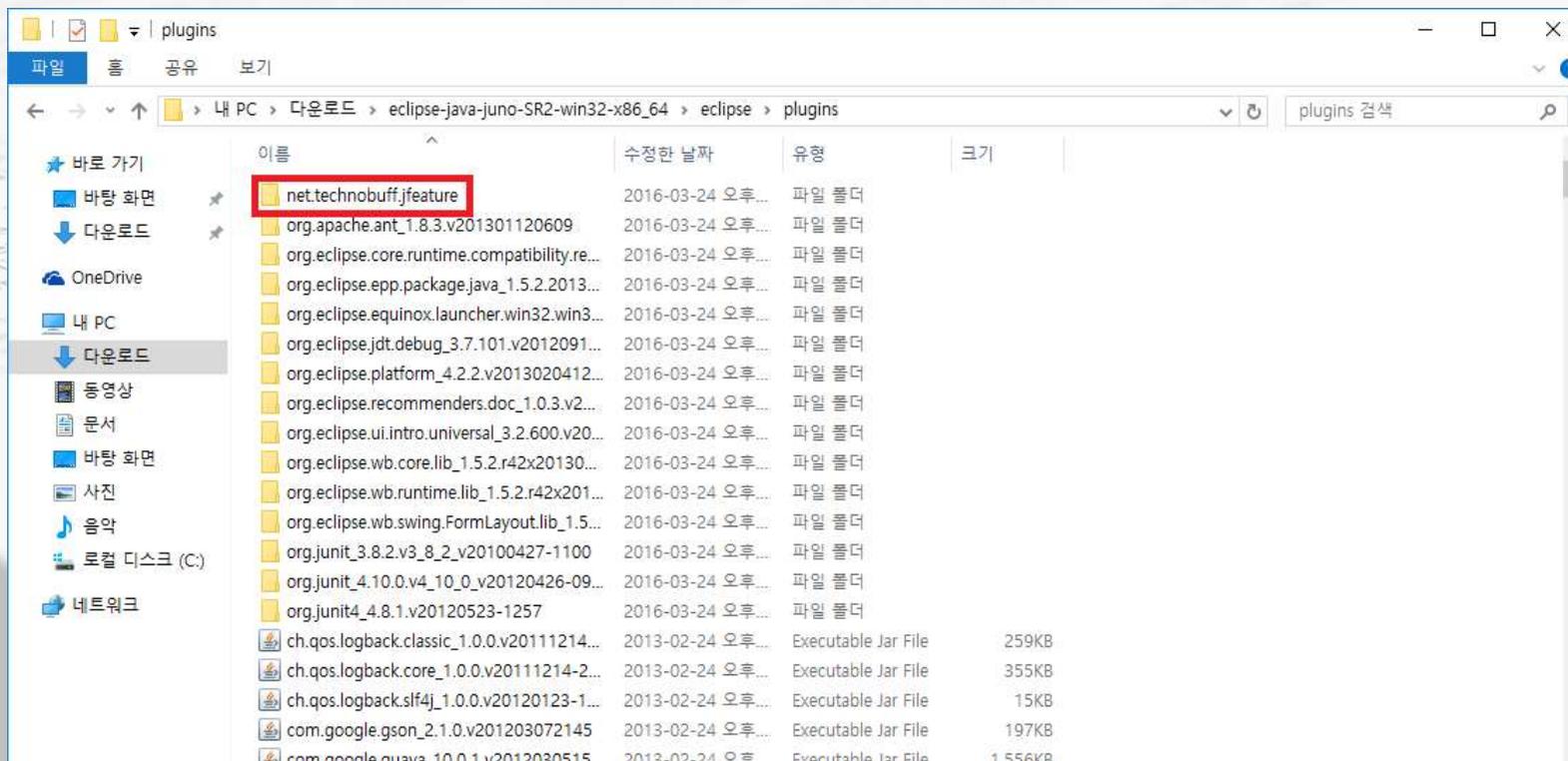
Summary (8)	4 (50%)	1 (12.5%)	3 (37.5%)
Advanced (66.67%)			
Basic (75%)			

Number of Requirements	8
Unique Test Methods	14
Requirements:Test Methods Ratio	1:1
Missing Test Methods	None
Unmapped Test Methods	2

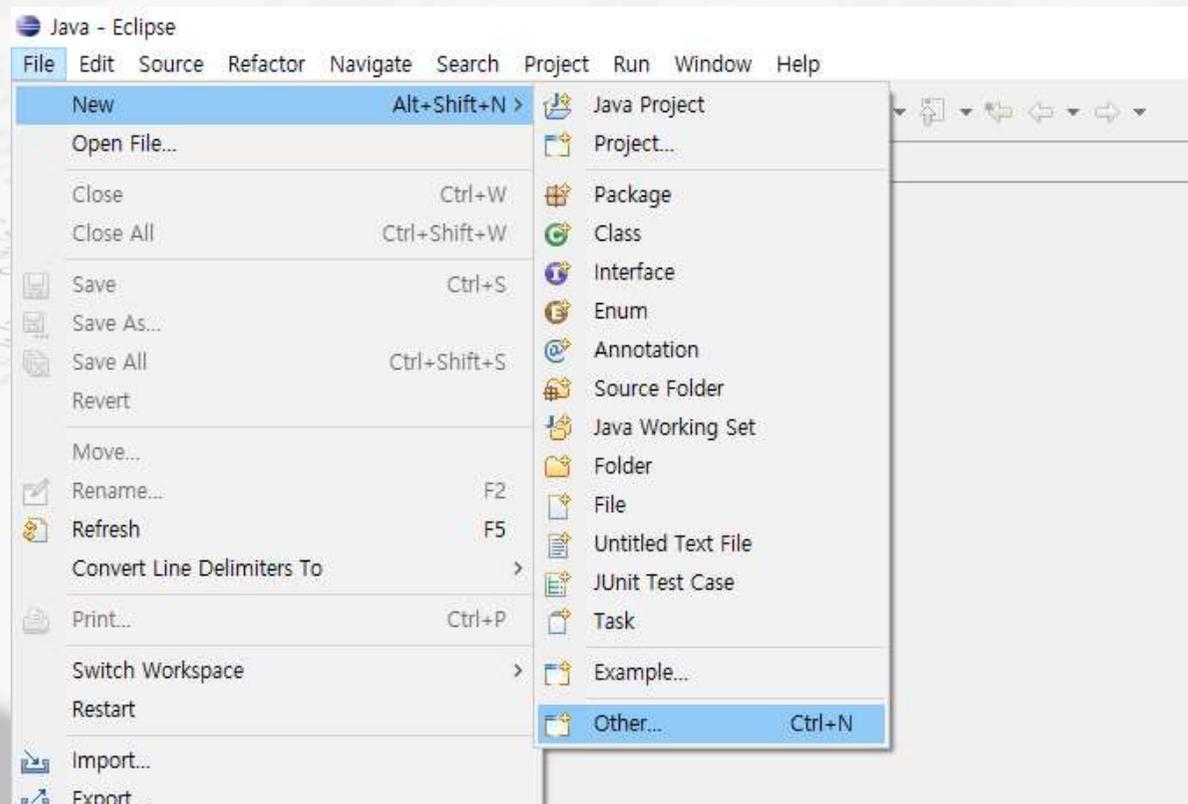
Requirement Coverage Details

# \* JFeature 설치

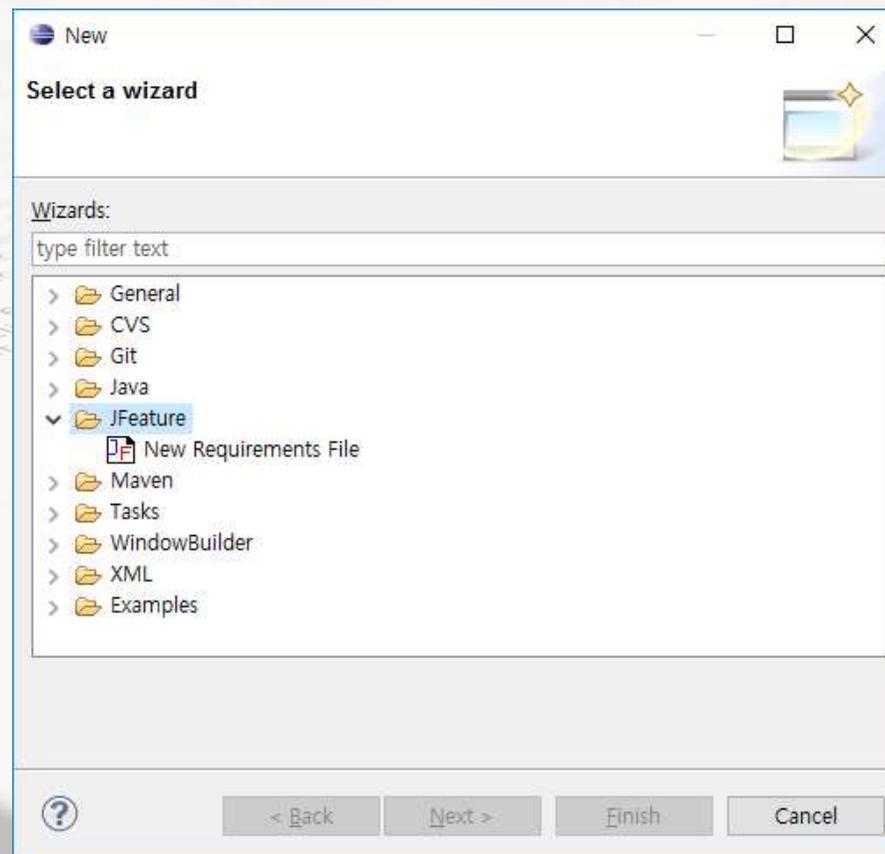
Eclipse가 설치된 경로/plugins 폴더에 압축 해제



## \* JFeature 설치확인



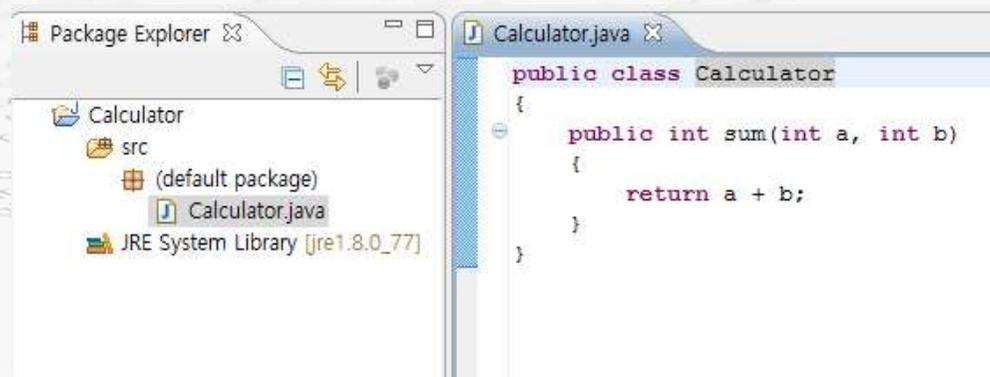
## \* JFeature 설치확인



## \* Source Code 작성

---

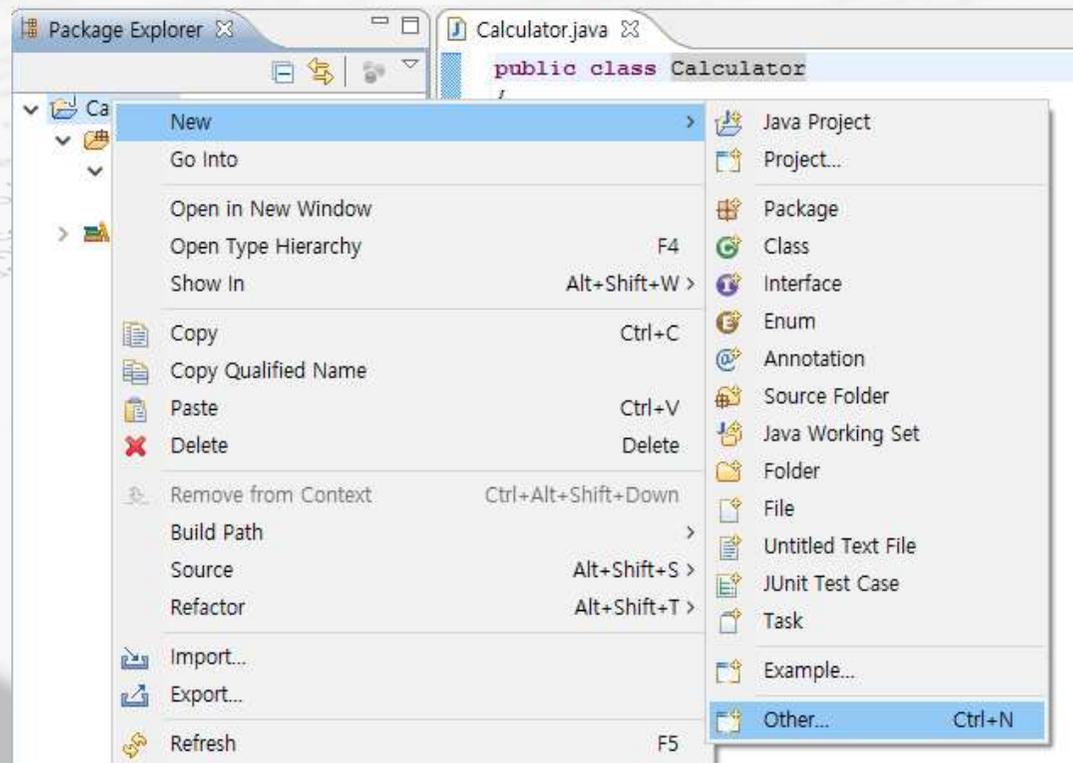
### Source Code 작성



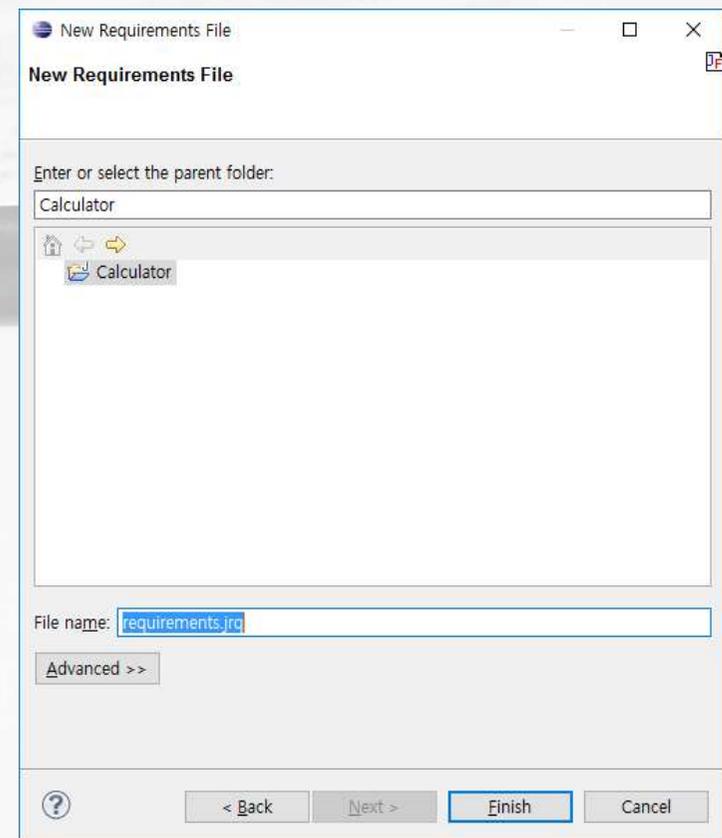
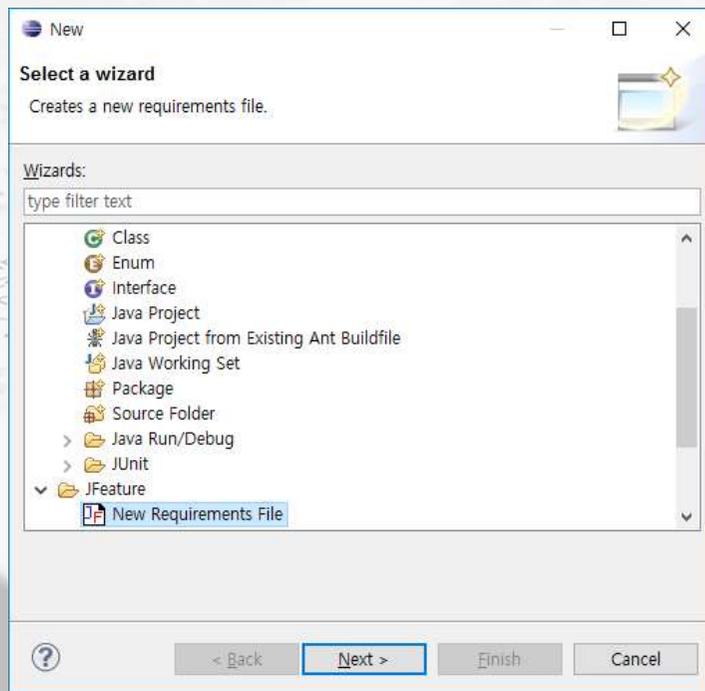
The screenshot displays an IDE interface. On the left, the Package Explorer shows a project named 'Calculator' with a source folder 'src' containing a package '(default package)' and a file 'Calculator.java'. The 'JRE System Library [jre1.8.0\_77]' is also visible. On the right, the editor window shows the code for 'Calculator.java':

```
public class Calculator
{
    public int sum(int a, int b)
    {
        return a + b;
    }
}
```

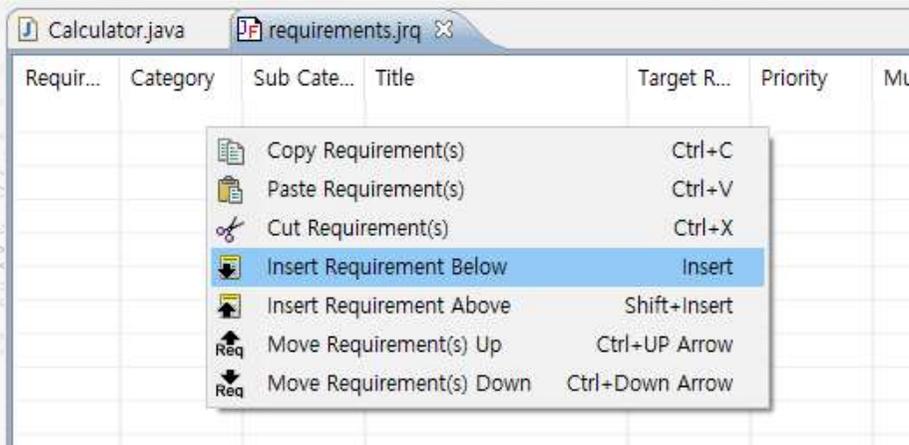
## \* 요구사항 파일 생성



## \* 요구사항 파일 생성



## \* 요구사항 입력

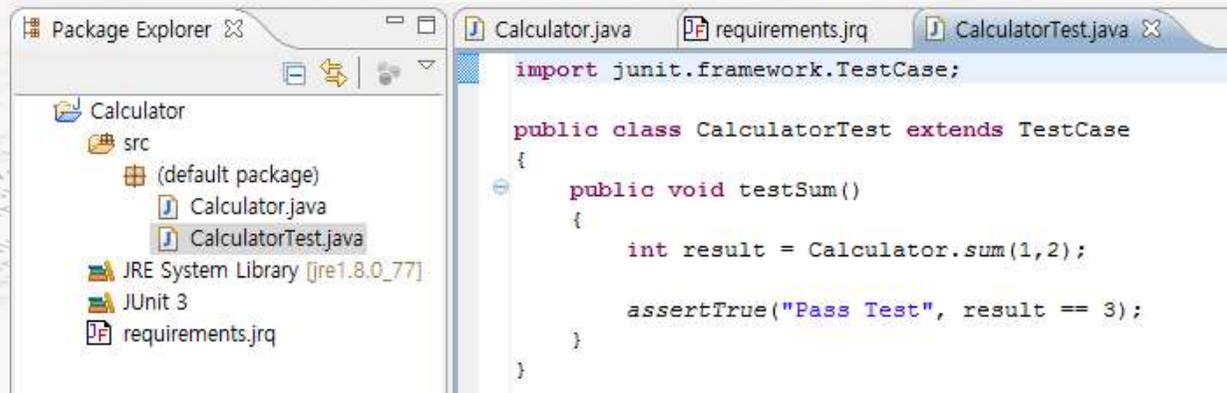


The screenshot shows a table with columns: Requir..., Category, Sub Cate..., Title, Target R..., Priority, Must ..., Test Methods, Dependencies, Description, and Notes. The data row is:

Requir...	Category	Sub Cate...	Title	Target R...	Priority	Must ...	Test Methods	Dependencies	Description	Notes
001	계산기	사칙연산	더하기		3	No				

## \* JUnit Test Method 작성

---



The screenshot shows an IDE with two windows. The left window is the Package Explorer, showing a project named 'Calculator' with a source folder 'src' containing 'Calculator.java' and 'CalculatorTest.java'. The right window shows the code for 'CalculatorTest.java', which imports 'junit.framework.TestCase' and implements a 'testSum()' method that calls 'Calculator.sum(1,2)' and asserts the result is 3.

```
import junit.framework.TestCase;

public class CalculatorTest extends TestCase
{
    public void testSum()
    {
        int result = Calculator.sum(1,2);

        assertTrue("Pass Test", result == 3);
    }
}
```

# \* JUnit Test Method와 요구사항 연동

Requir...	Category	Sub Cate...	Title	Target R...	Priority	Must ...	Test Methods
001	계산기	사칙연산	더하기		3	No	

Select Test Method(s)

Select Test Classes (? = any character, \* = any string)  
c

Show methods starting with "test" only

Test Classes

- Calculator - Calculator/Calculator/src/C
- CalculatorTest - CalculatorTest/Calculat

Test Class Methods

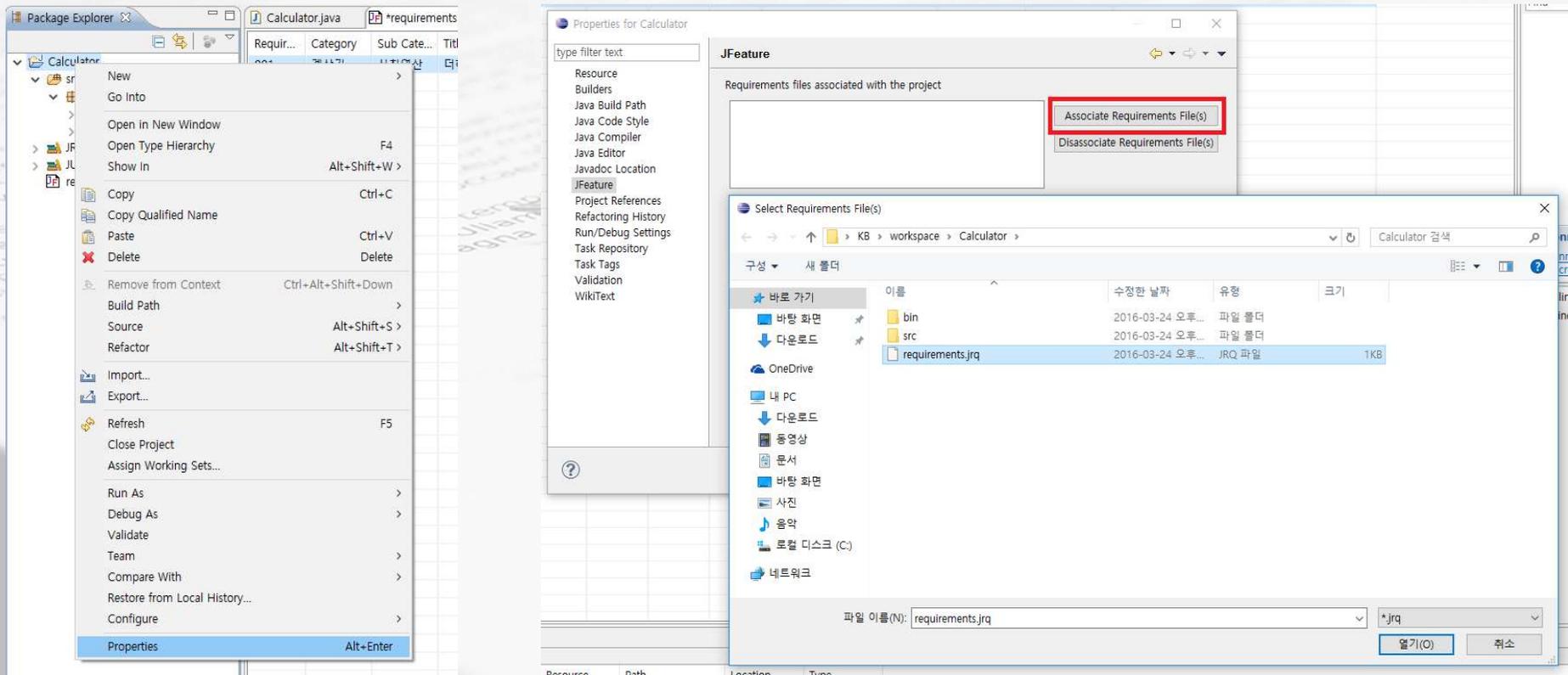
- testSum

Test Methods

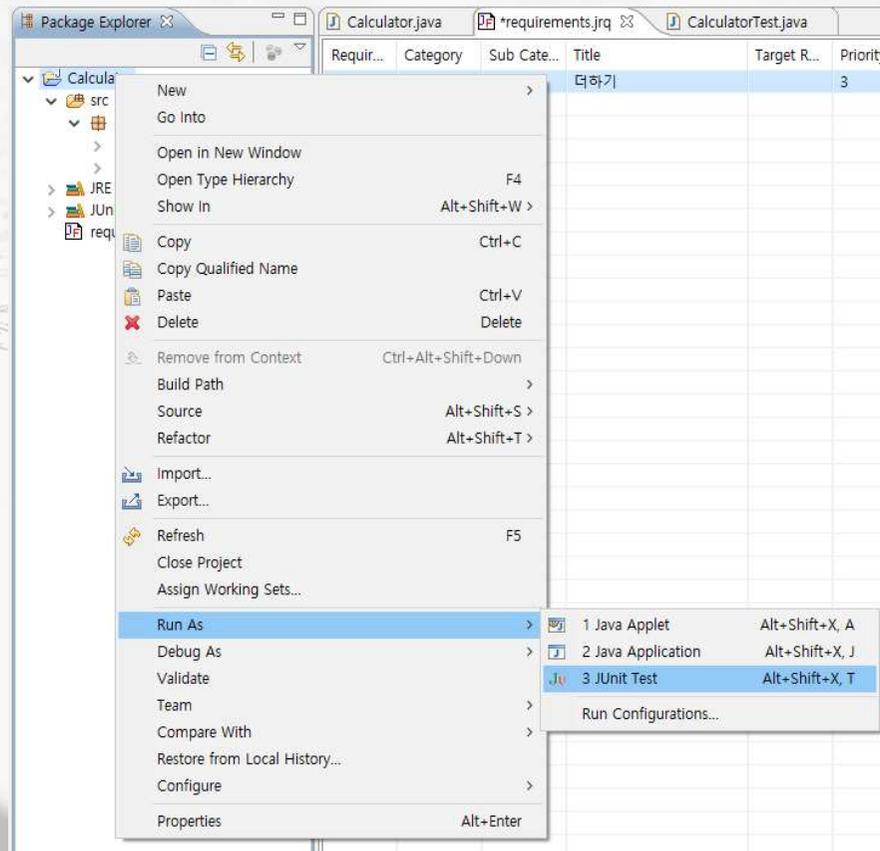
- CalculatorTest.testSum

OK Cancel

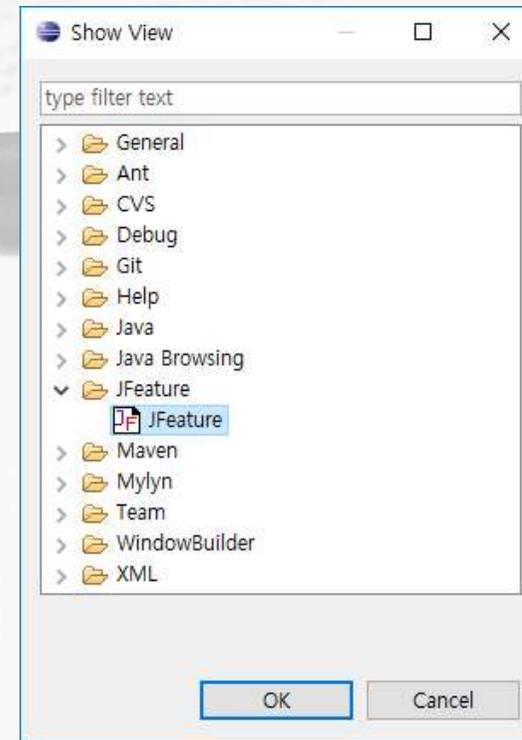
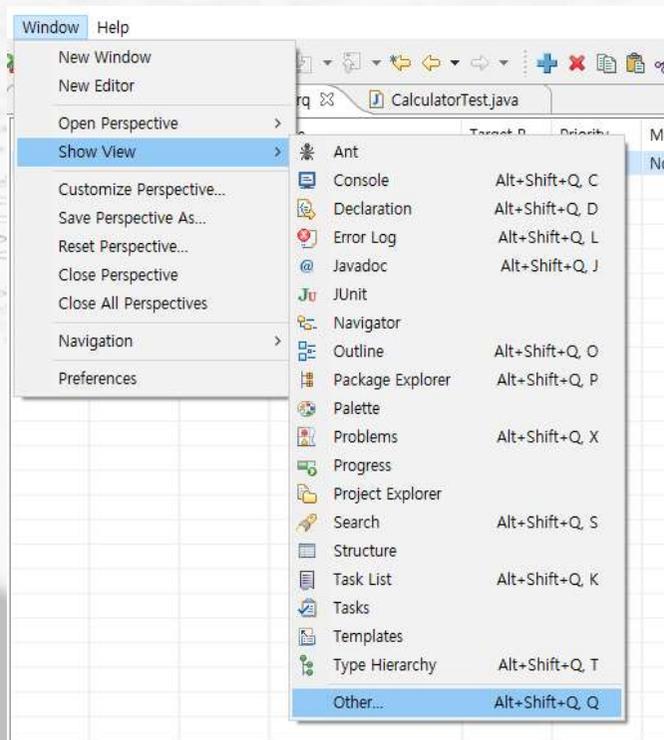
# \* 프로젝트와 요구사항 연동



## \* 결과 확인(JUnit Test 실행)



## \* 결과 보기(요구사항 Report 확인)



## \* 결과 보기 (요구사항 Report 확인)

The screenshot displays the 'Requirement Coverage Report' in the JFeature IDE. The interface includes a sidebar with 'All Categories' (계산기 (100%)) and 'All Requirements' (더하기 (100%)). The main area shows a green progress bar for 100% coverage. A summary table is located in the top right corner.

Number of Requirements	1
Unique Test Methods	1
Requirements:Test Methods Ratio	1:1
Missing Test Methods	None

Req#	Coverage Item	Coverage
1.	사족연산 (1)	100%

Report generated on 2016.11.24 3:19:02:04 KST

Powered By JFeature



# 3. 형상 관리

- Github -

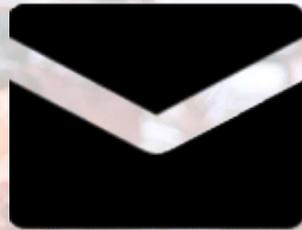


## \* 형상관리 - Why

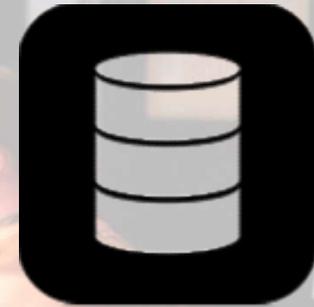
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다수가 참여하는  
프로젝트의 증가



E-mail, 메신저  
관리 어려움

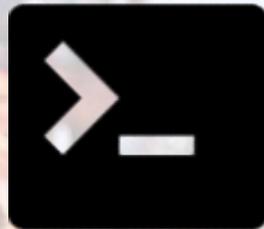


공동 작업 서버 및  
저장공간 필요

## \* Github 특징



사용자에게 편리한  
웹 환경 제공

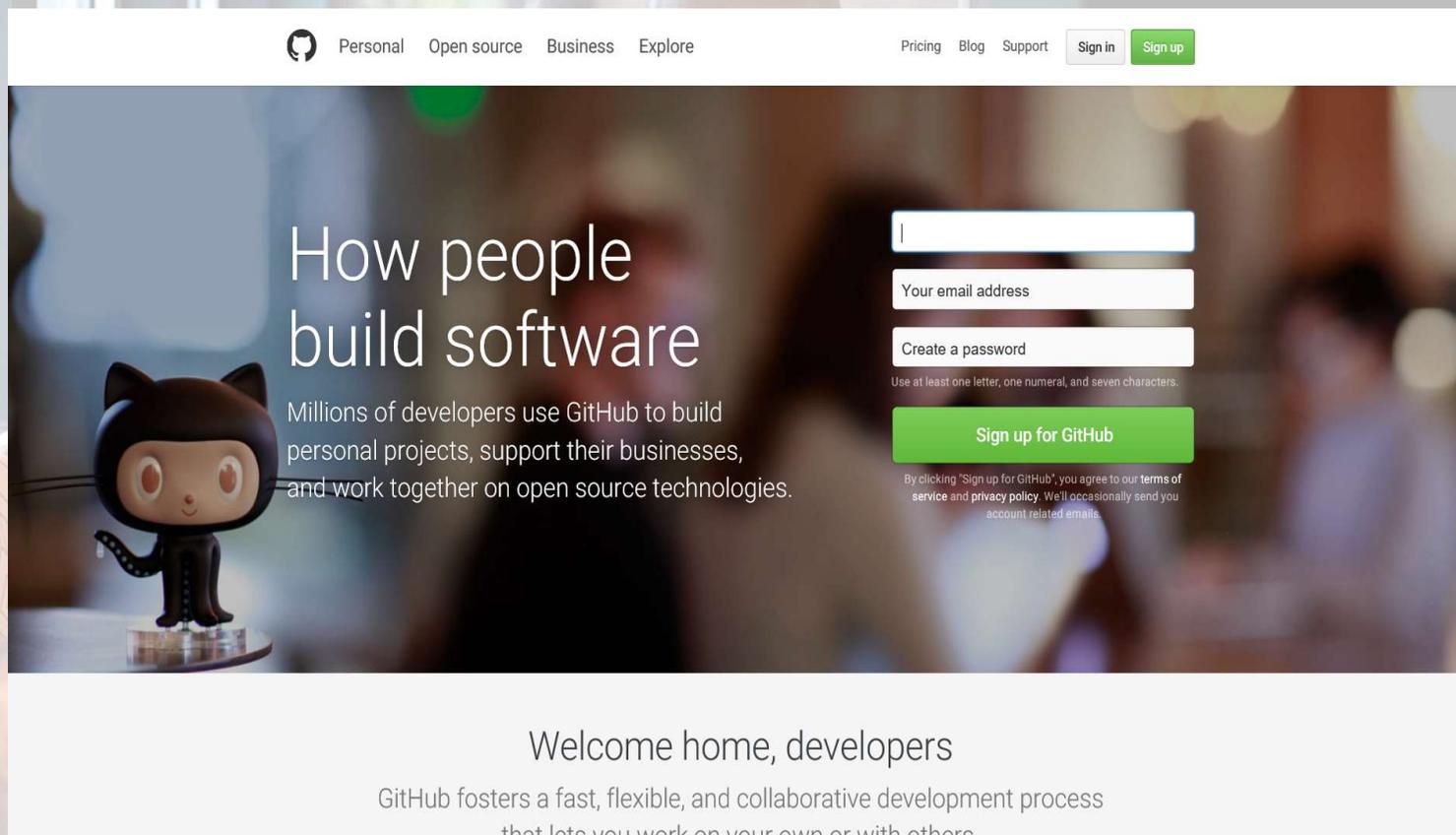


다양한 Repository  
Access Tool



Open Source  
Project에게 무료제공

# \* Github 사용하기



The screenshot shows the GitHub homepage with a navigation bar at the top containing links for Personal, Open source, Business, and Explore, along with Pricing, Blog, and Support. There are 'Sign in' and 'Sign up' buttons in the top right. The main content area features a large heading 'How people build software' and a sub-heading 'Millions of developers use GitHub to build personal projects, support their businesses, and work together on open source technologies.' To the left of the text is a small figurine of the GitHub mascot, Octocat. To the right is a sign-up form with three input fields: a name field, a 'Your email address' field, and a 'Create a password' field. Below the password field is a small note: 'Use at least one letter, one numeral, and seven characters.' A green 'Sign up for GitHub' button is positioned below the form. At the bottom of the sign-up form, there is a small disclaimer: 'By clicking "Sign up for GitHub", you agree to our terms of service and privacy policy. We'll occasionally send you account related emails.'

Personal Open source Business Explore Pricing Blog Support Sign in Sign up

## How people build software

Millions of developers use GitHub to build personal projects, support their businesses, and work together on open source technologies.

Use at least one letter, one numeral, and seven characters.

Sign up for GitHub

By clicking "Sign up for GitHub", you agree to our terms of service and privacy policy. We'll occasionally send you account related emails.

### Welcome home, developers

GitHub fosters a fast, flexible, and collaborative development process that lets you work on your own or with others.

# \* Repository 생성

Search GitHub Pull requests Issues Gist

## Create a new repository

A repository contains all the files for your project, including the revision history.

Owner aksjm2 /

Great repository names are short and memorable. Need inspiration? How about [ubiquitous-couscous](#).

Description (optional)

**Public**  
Anyone can see this repository. You choose who can commit to it.

**Private**  
You choose who can see and commit to this repository.

**Initialize this repository with a README**  
This will let you immediately clone the repository to your computer. Skip this step if you're importing an existing repository.

Add .gitignore: **None** | Add a license: **None**

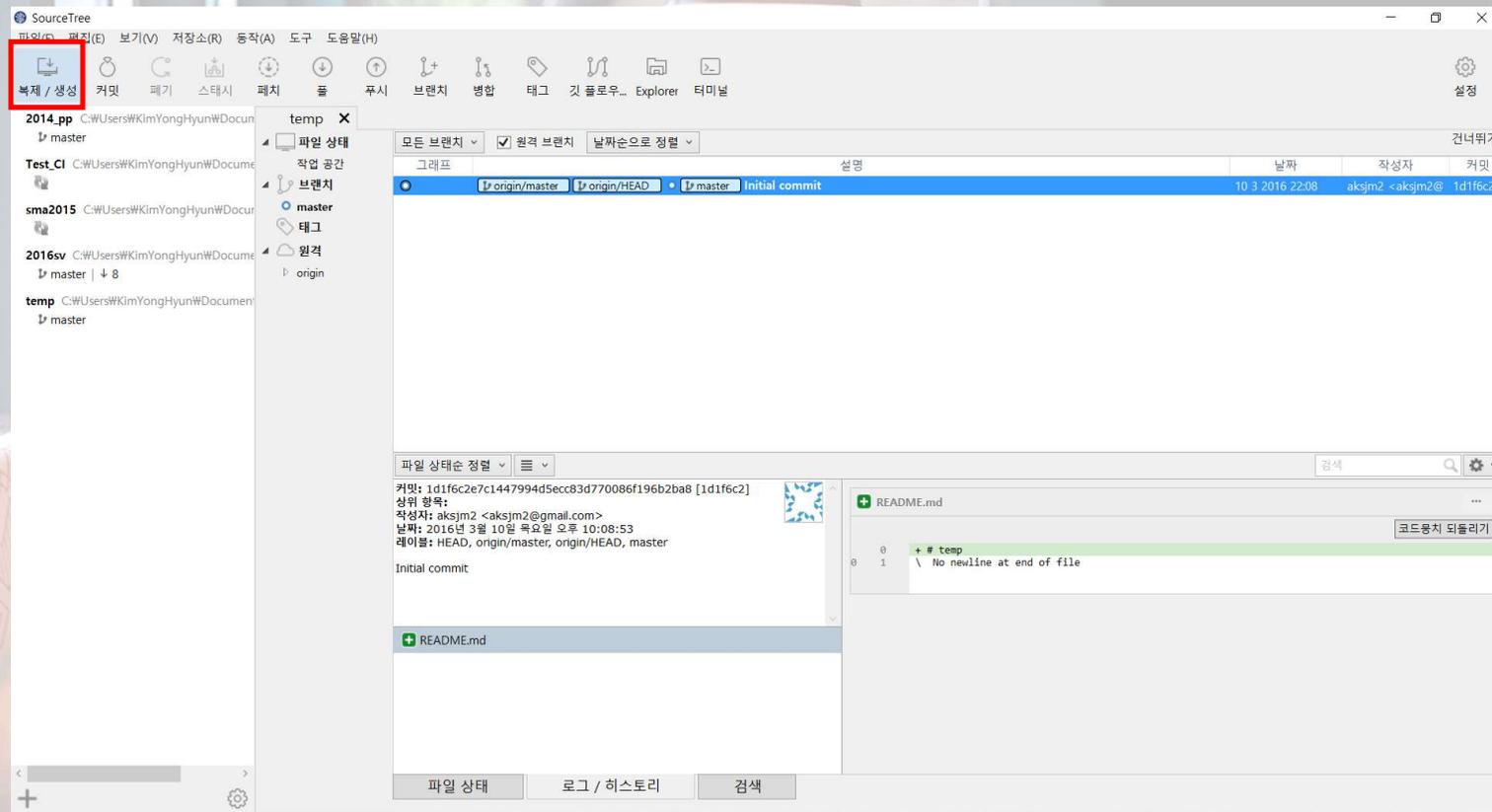
**Create repository**

# \* Repository 생성 결과

The screenshot shows a GitHub repository page for 'aksjm2 / test'. The repository is in the 'master' branch and contains one commit, one branch, and one contributor. The repository has 1 commit, 1 branch, 0 releases, and 1 contributor. The repository is currently empty, with a README.md file that contains the text 'test'. The repository is located at https://github.com/aksjm2. The page includes navigation links for Pull requests, Issues, and Gist, and a search bar. The repository is currently unwatched, has 0 stars, and 0 forks. The repository is currently unwatched, has 0 stars, and 0 forks. The repository is currently unwatched, has 0 stars, and 0 forks.

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# \* Source Tree 사용



# \* Repository Clone

The screenshot shows the GitHub interface for a repository named 'aksjm2 / test'. The repository is on the 'master' branch and has 1 commit, 1 branch, and 0 releases. The 'Code' button is highlighted, and the 'HTTPS' option is selected, showing the URL 'https://github.com/aksjm2'. A red box highlights the 'HTTPS' dropdown and the URL, with a red arrow pointing to the '소스 경로 / URL' field in the cloning dialog.

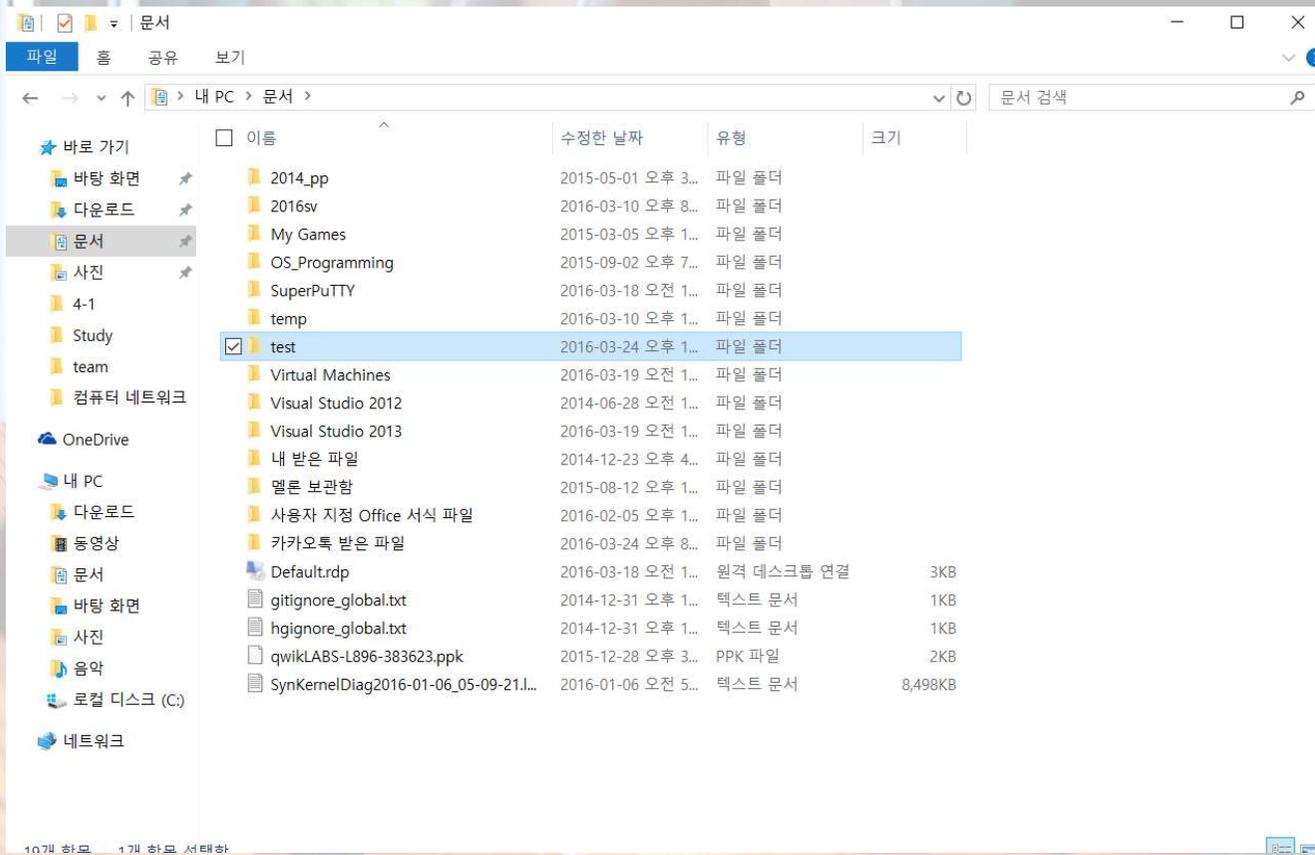
The dialog box is titled '저장소 복제/추가/생성' (Clone/Add/Create Repository). It has three buttons at the top: '저장소 복제' (Clone), '작업공간 열기' (Open Working Space), and '+ 새 저장소 생성' (+ Create New Repository). The '소스 경로 / URL' (Source Path / URL) field is highlighted with a red box and contains 'https://github.com/aksjm2/test.git'. Below this, the '저장소 종류' (Repository Type) is set to 'Git 저장소입니다' (It is a Git repository). The '목적지 경로' (Destination Path) is 'C:\Users\KimYongHyun\Documents\test'. Under '고급 옵션' (Advanced Options), the checkbox '이 저장소 책갈피에 넣기' (Add this repository to bookmarks) is checked. The '이름' (Name) field contains 'test' and the '폴더' (Folder) is '[루트]' (Root). At the bottom right, there are '클론' (Clone) and '취소' (Cancel) buttons.

# \* Repository Clone 결과

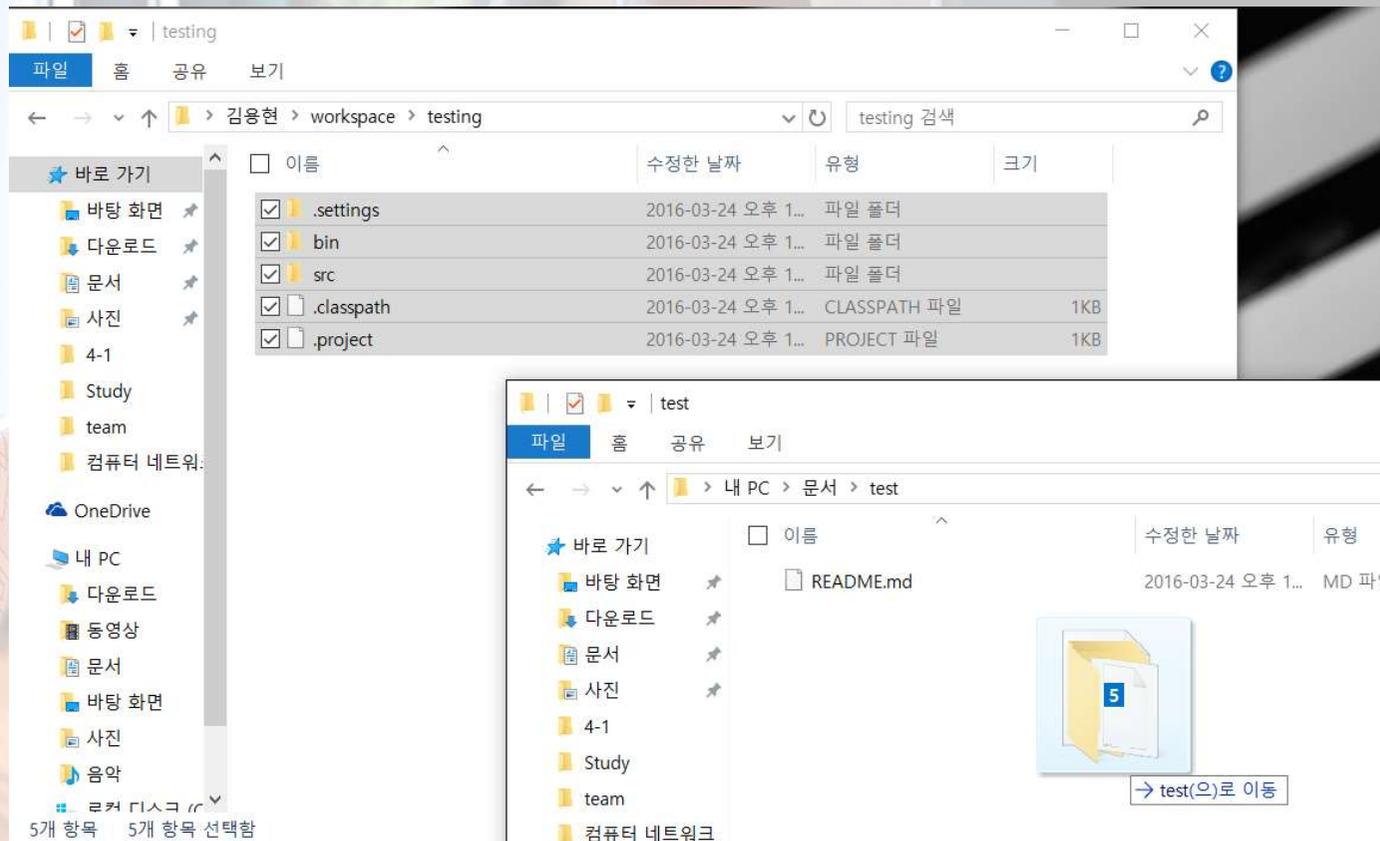
The screenshot shows the SourceTree application interface. The left sidebar displays a list of repositories, with the 'test' repository selected and highlighted by a red box. The main workspace shows the 'test' repository with an 'Initial commit' on the 'master' branch. The commit details at the bottom indicate the commit hash is 74bdfde82017855d6284d520b7f9f008916d17ce [74bdfde], created by aksjm2 on 2016년 3월 24일. The file explorer shows a 'README.md' file with the following content:

```
0 + # test
0 1 \ No newline at end of file
```

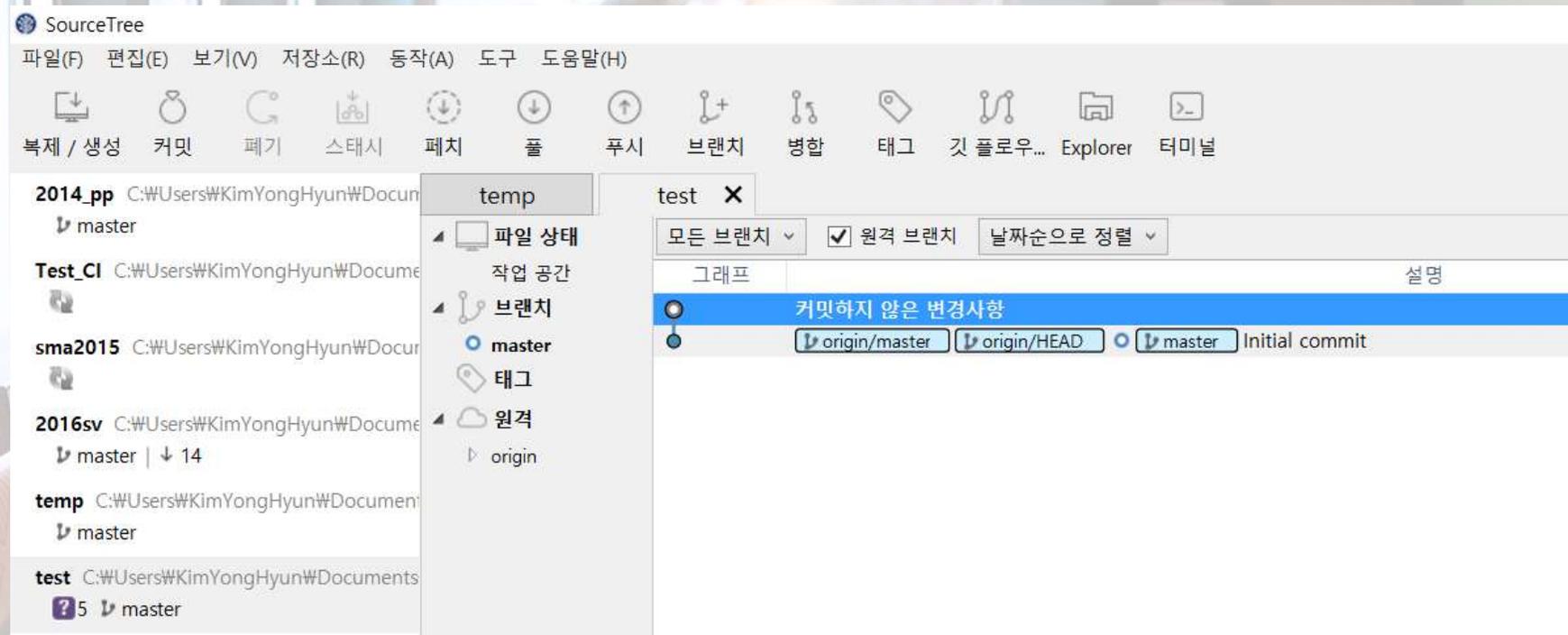
# \* Repository Clone 확인



# \* Test용 Java project 복사



## \* Source Tree 변경사항 확인



# \* Commit

The screenshot shows the SourceTree interface with the following elements:

- Left Panel:** Project tree showing branches like 'temp', 'Test\_CI', 'sma2015', '2016sv', and 'test'.
- Center Panel:** 'test' window showing '대기 중인 파일, 파일 상태순 정렬' and a list of files to be committed. A red box highlights the checkbox '스테이지에 올라가지 않은 파일'.
- Right Panel:** Preview of the selected file '.classpath' with its XML content.
- Bottom Panel:** Commit message input field for user 'aksjm2 <aksjm2@gmail.com>'. A red box highlights the input field. Below it are buttons for '커밋' (Commit) and '취소' (Cancel), with '커밋' also highlighted by a red box.

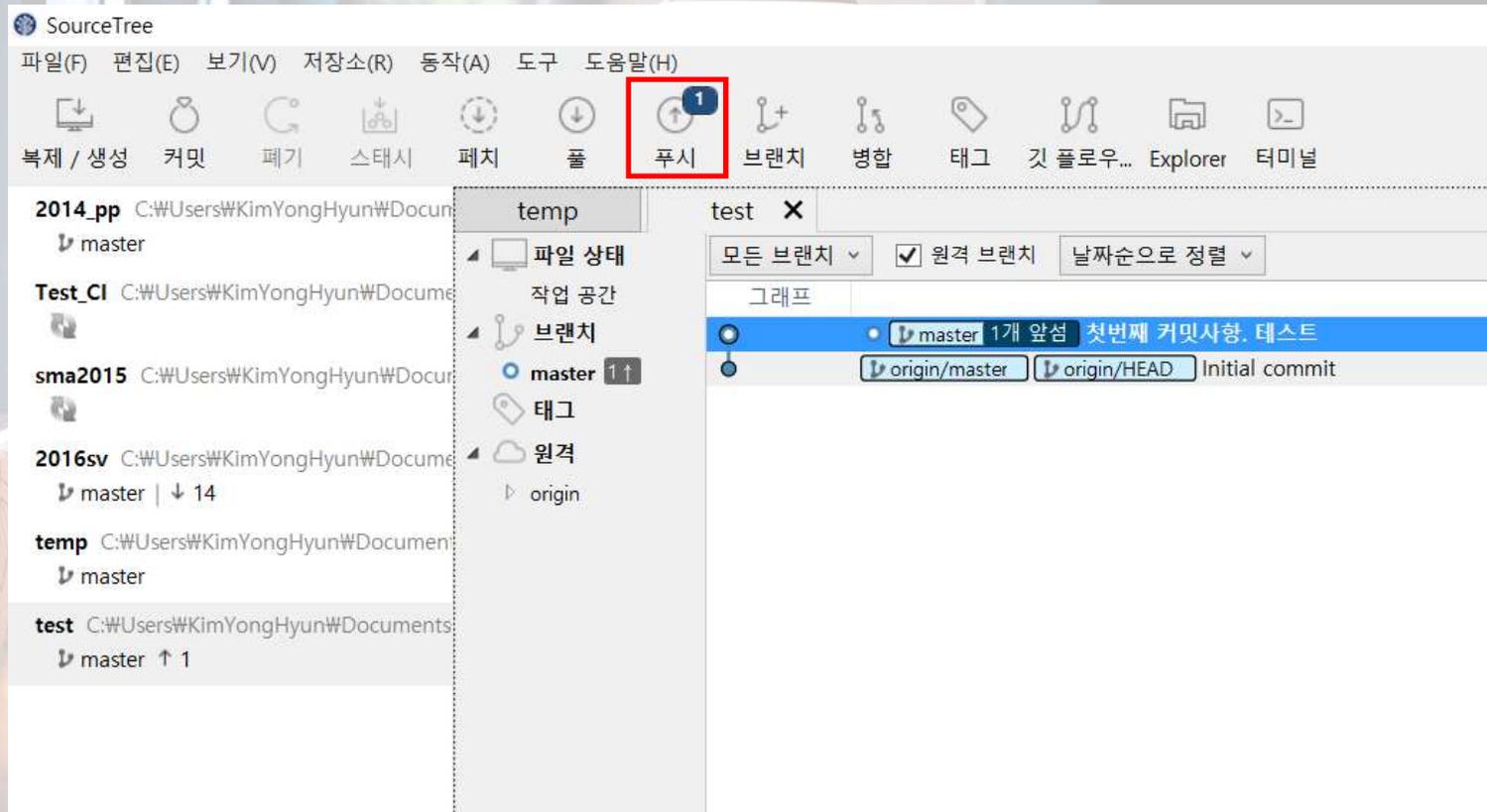
# \* Commit

The screenshot shows a commit dialog window titled "test". The window is divided into several sections:

- File Selection:** A list of files to be committed, with checkboxes for each. The "스테이지에 올라간 파일" (Files staged for commit) section is checked, and includes files like `.classpath`, `.project`, `.settings/org.eclipse.jdt.core.prefs`, `bin/testing/Main.class`, and `src/testing/Main.java`. The "스테이지에 올라가지 않은 파일" (Files not staged for commit) section is currently empty.
- Code Editor:** A preview of the `.classpath` file content, showing XML tags for classpath entries. The content is:

```
1 + <?xml version="1.0" encoding="UTF-8"?>
2 + <classpath>
3 +   <classpathentry kind="src" path="src"/>
4 +   <classpathentry kind="con" path="org.eclipse.jdt.launching.JRE_CONTAINER/or
5 +   <classpathentry kind="output" path="bin"/>
6 + </classpath>
```
- Commit Information:** A section for the user `aksjm2 <aksjm2@gmail.com>` with a commit message field containing "첫번째 커밋사항. 테스트". There is a checkbox for "origin/master에 바뀐 내용 즉시 푸시" (Push changes to origin/master immediately) which is currently unchecked.
- Buttons:** "커밋" (Commit) and "취소" (Cancel) buttons are located at the bottom right.
- Footer:** "파일 상태" (File Status), "로그 / 히스토리" (Log / History), and "검색" (Search) buttons are at the bottom.

# \* Push



## \* Source Tree 변경사항 확인

푸시: test

다음 저장소에 푸시:

푸시할 브랜치

푸시?	로컬 브랜치	리모트 브랜치	추적?
<input checked="" type="checkbox"/>	master	master	<input type="checkbox"/>

모두선택

모든 태그 푸시

# \* Web에서 확인

The screenshot shows a GitHub repository page for 'aksjm2 / test'. The repository has 2 commits, 1 branch, 0 releases, and 1 contributor. The current branch is 'master'. The file list includes .settings, bin/testing, src/testing, .classpath, .project, and README.md. The README.md file is selected, showing the word 'test'.

Repository: aksjm2 / test

Unwatch 1 Star 0 Fork 0

Code Issues 0 Pull requests 0 Wiki Pulse Graphs Settings

No description or website provided. — Edit

2 commits 1 branch 0 releases 1 contributor

Branch: master New pull request

New file Upload files Find file HTTPS https://github.com/aksjm2/test Download ZIP

File	Commit Message	Time
.settings	첫번째 커밋사항. 테스트	5 minutes ago
bin/testing	첫번째 커밋사항. 테스트	5 minutes ago
src/testing	첫번째 커밋사항. 테스트	5 minutes ago
.classpath	첫번째 커밋사항. 테스트	5 minutes ago
.project	첫번째 커밋사항. 테스트	5 minutes ago
README.md	Initial commit	an hour ago

aksjm2 첫번째 커밋사항. 테스트 Latest commit 03e792b 5 minutes ago

test

# \* Github - 저장소 확인

Search GitHub Pull requests Issues Gist

**Pro tip:** updating your profile with your name, location, and a profile picture helps other GitHub users get to know you. [Edit profile](#)

Contributions Repositories Public activity

**Popular repositories**

- unnamedproject 0 ★
- 2016\_SV 0 ★
- abc 0 ★
- nonameproject 0 ★
- sma2015 0 ★

**Repositories contributed to**

- sev1004/Test\_CI 0 ★  
CI server Testing for git repository

**Contributions**

Summary of pull requests, issues opened, and commits. [Learn how we count contributions.](#) Less More

Contributions in the last year	Longest streak	Current streak
55 total	3 days	0 days

# \* Github - Code 상황보기

This repository Search Pull requests Issues Gist

aksjm2 / test Unwatch 1 Star 0 Fork 0

Code Issues 0 Pull requests 0 Wiki Pulse Graphs Settings

Branch: master

Commits on Mar 24, 2016

- 첫번째 커밋사항. 테스트 aksjm2 committed 6 minutes ago 03e792b
- Initial commit aksjm2 committed an hour ago 74bdfde

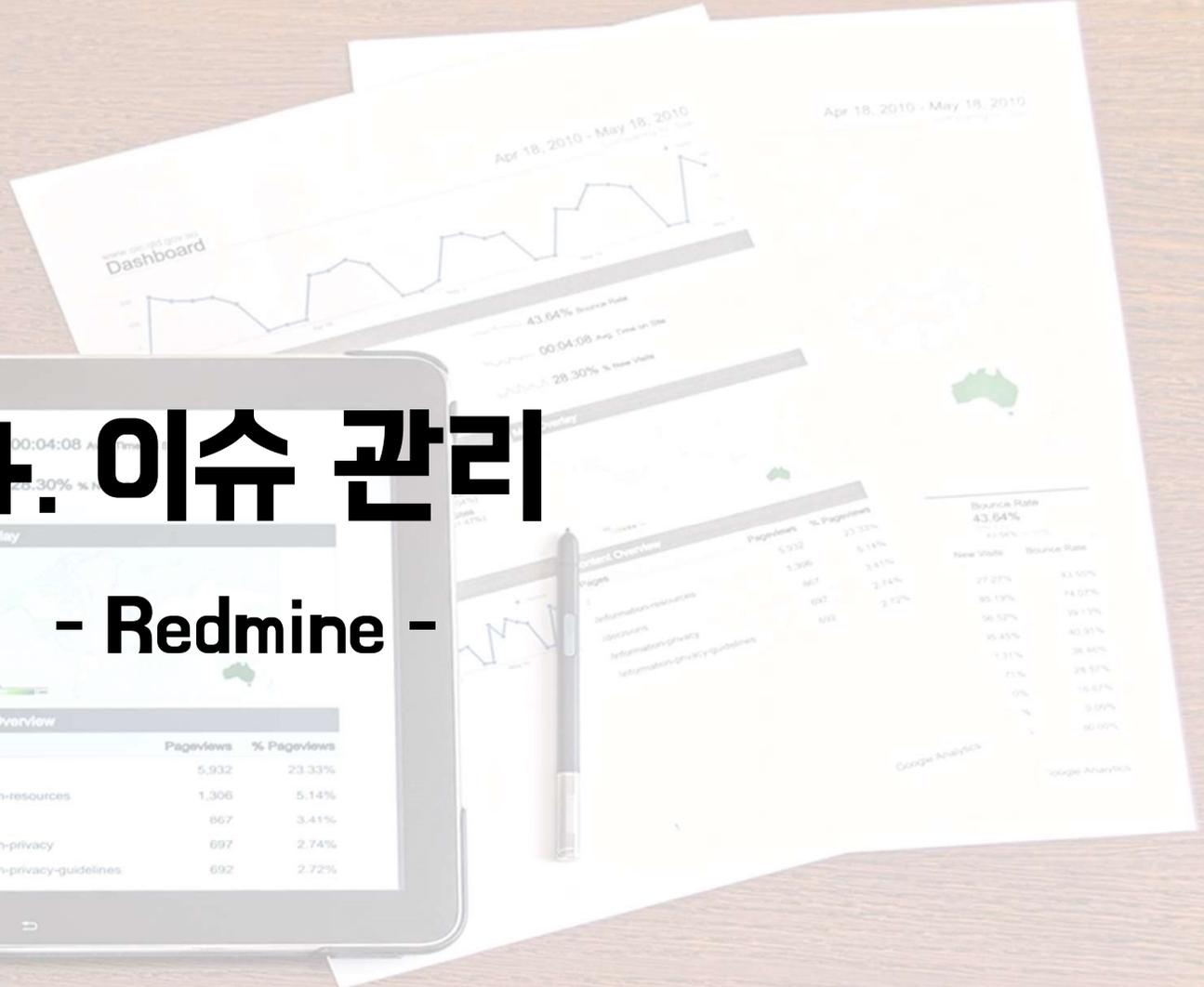
\* Commit시 Comment 확인 가능

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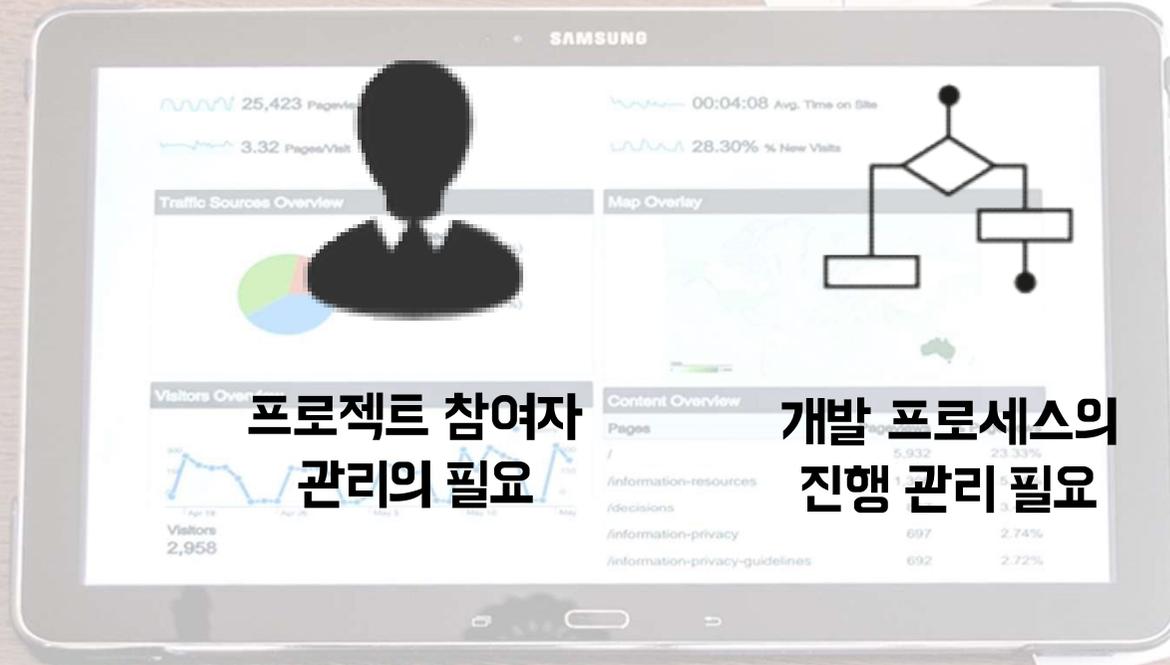


# 4. 이슈 관리

- Redmine -



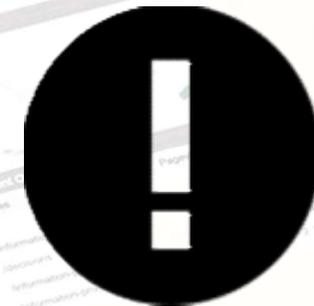
# \* 이슈 관리 - Why?



프로젝트 참여자  
관리의 필요

개발 프로세스의  
진행 관리 필요

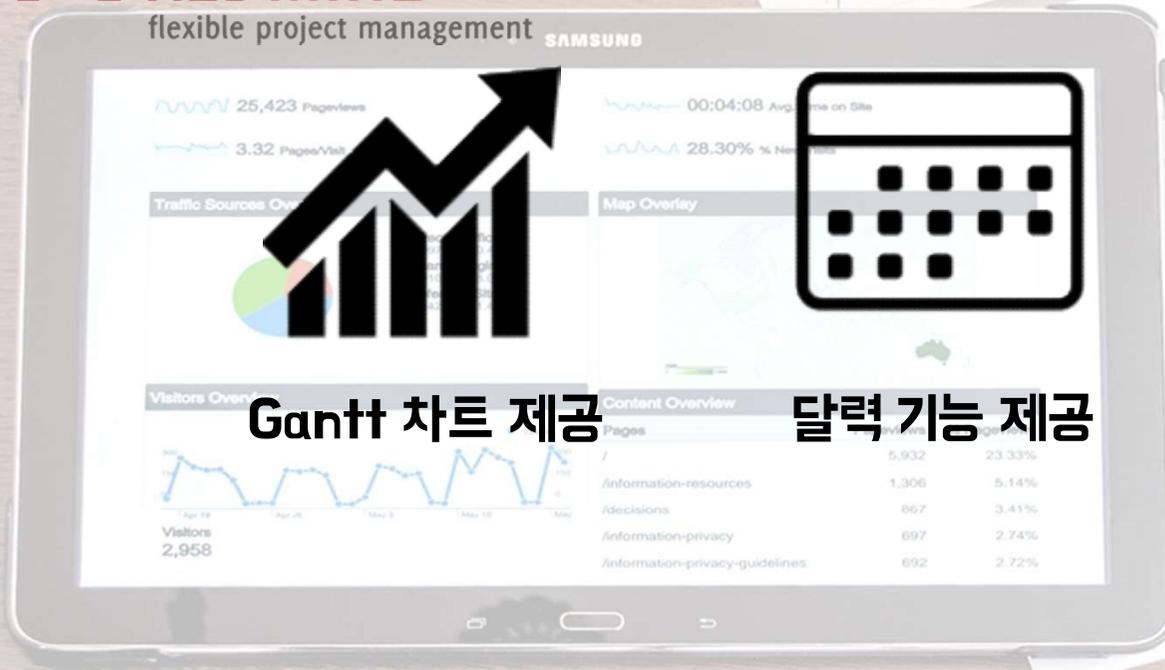
Test결과 및 Bug  
Feed Back 필요



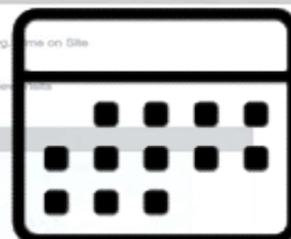
# \* Redmine 특징



flexible project management **SAMSUNG**



**Gantt 차트 제공**



**달력 기능 제공**



**다중 프로젝트 지원**

# \* Redmine 설치

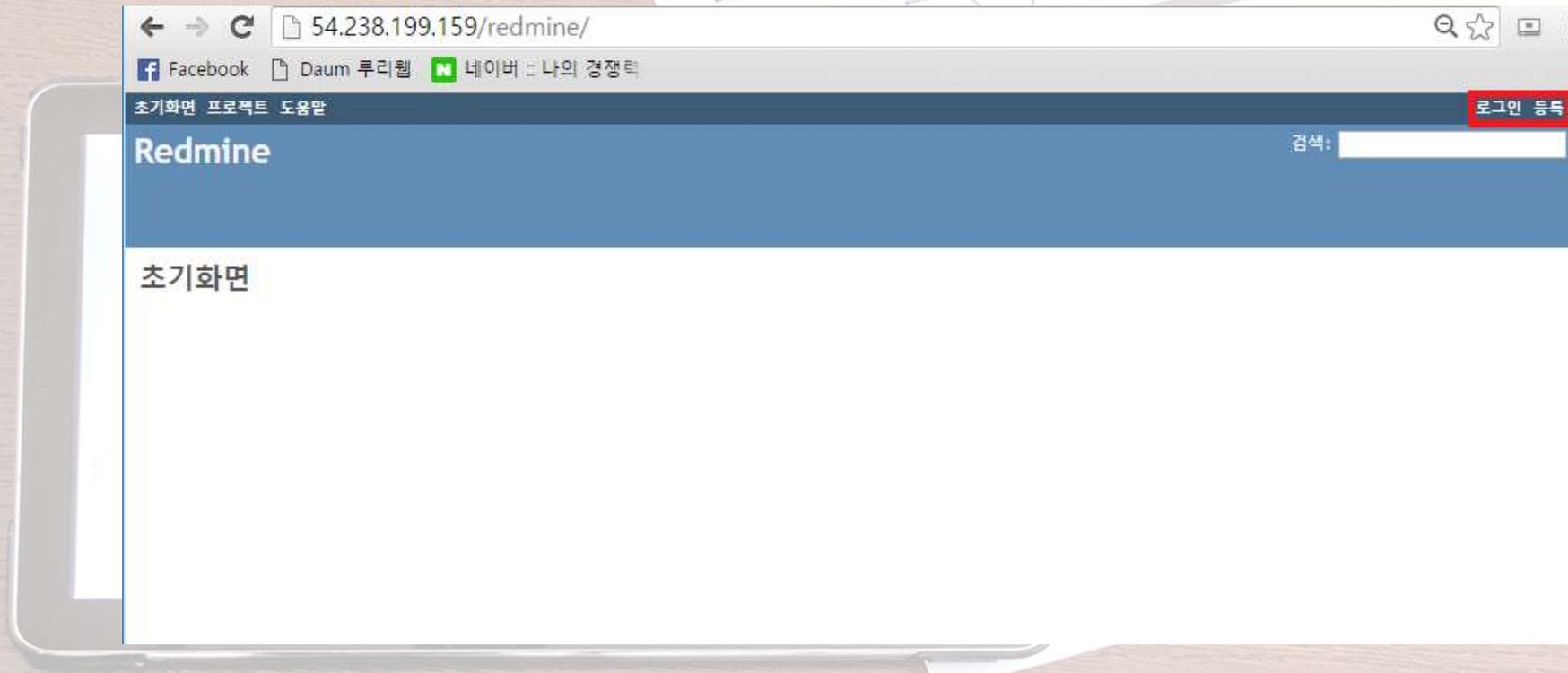
```
root@ip-172-31-8-188: /home/ubuntu
root@ip-172-31-8-188:/home/ubuntu# ls
project setup
root@ip-172-31-8-188:/home/ubuntu# wget https://downloads.bitnami.com/files/stacks/redmine/3.2.0-2/bitnami-redmine-3.2.0-2-linux-x64-installer.run
--2016-03-24 10:18:27-- https://downloads.bitnami.com/files/stacks/redmine/3.2.0-2/bitnami-redmine-3.2.0-2-linux-x64-installer.run
Resolving downloads.bitnami.com (downloads.bitnami.com)... 54.230.109.193, 54.230.109.226, 54.230.109.10, ...
Connecting to downloads.bitnami.com (downloads.bitnami.com)|54.230.109.193|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 155694375 (148M) [binary/octet-stream]
Saving to: 'bitnami-redmine-3.2.0-2-linux-x64-installer.run'

100% [=====]

2016-03-24 10:18:50 (6.66 MB/s) - 'bitnami-redmine-3.2.0-2-linux-x64-installer.run' saved [155694375/155694375]

root@ip-172-31-8-188:/home/ubuntu# ls
bitnami-redmine-3.2.0-2-linux-x64-installer.run project setup
root@ip-172-31-8-188:/home/ubuntu# chmod u+x bitnami-redmine-3.2.0-2-linux-x64-installer.run
root@ip-172-31-8-188:/home/ubuntu# ls
bitnami-redmine-3.2.0-2-linux-x64-installer.run project setup
root@ip-172-31-8-188:/home/ubuntu# ls -al
total 152112
drwxr-xr-x 7 ubuntu ubuntu    4096 Mar 24 10:18 .
drwxr-xr-x 3 root  root      4096 Mar  9 04:03 ..
-rw----- 1 ubuntu ubuntu   4594 Mar 24 09:49 .bash_history
-rw-r--r-- 1 ubuntu ubuntu    220 Apr  9 2014 .bash_logout
-rw-r--r-- 1 ubuntu ubuntu   3637 Apr  9 2014 .bashrc
-rwxr--r-- 1 root  root     155694375 Feb 15 16:44 bitnami-redmine-3.2.0-2-linux-x64-installer.run
drwx----- 2 ubuntu ubuntu    4096 Mar  9 04:13 .cache
drwxrwxr-x 3 ubuntu ubuntu    4096 Mar 10 11:52 .m2
-rw-r--r-- 1 ubuntu ubuntu     675 Apr  9 2014 .profile
drwxr-xr-x 2 root  root      4096 Mar  9 04:36 project
drwxr-xr-x 2 root  root      4096 Mar 24 10:18 setup
drwx----- 2 ubuntu ubuntu    4096 Mar  9 04:03 .ssh
-rw----- 1 ubuntu ubuntu   11457 Mar 10 14:24 .viminfo
root@ip-172-31-8-188:/home/ubuntu# ./bitnami-redmine-3.2.0-2-linux-x64-installer.run
```

## \* 초기 화면



# \* Login



## \* 프로젝트 생성

The screenshot displays the Redmine web interface. The browser address bar shows the URL `54.238.199.159/redmine/projects`. The page title is "Redmine". The user is logged in as "admin". The main content area shows a list of projects, with a "새 프로젝트" (New Project) button highlighted in red. The page also includes a search bar, a navigation menu, and a sidebar with a "적용" (Apply) button.

# \* 프로젝트 생성

초기화면 내 페이지 프로젝트 관리 도움말 로그인계정: admin 내 계정 로그아웃

## Redmine

검색:

### 새 프로젝트

이름 \*

설명 **B I U C HI H2 H3**

식별자 \*

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"/> 문서
<input checked="" type="checkbox"/> 파일	<input checked="" type="checkbox"/> 위키	<input checked="" type="checkbox"/> 저장소	<input checked="" type="checkbox"/> 게시판
<input checked="" type="checkbox"/> 달력	<input checked="" type="checkbox"/> Gantt 차트		

일감 유형

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

## \* 프로젝트 생성 확인

초기화면 내 페이지 프로젝트 관리 도움말

로그인계정: admin 내 계정 로그아웃

### test\_project

검색:

개요 작업내역 일감 새 일감만들기 Gantt 차트 달력 뉴스 문서 위키 파일 설정

#### 개요

[+ 새 하위 프로젝트](#) [🔒 닫기](#)

##### 일감 추적

	진행중	완료됨	합계
결합	0	0	0
새기능	0	0	0
지원	0	0	0

[모든 일감 보기](#) | [달력](#) | [Gantt 차트](#)

#### 소요 시간

🕒 0.00 시간

[작업시간 기록](#) | [자세히](#) | [보고서](#)

# \* 새 일감 만들기

초기화면 내 페이지 프로젝트 관리 도움말 로그인계정: admin 내 계정 로그아웃

## test\_project

검색:

개요 작업내역 일감 새 일감만들기 Gantt 차트 달력 뉴스 문서 위키 파일 설정

### 새 일감만들기

유형 \* 새기능  비공개

제목 \* Test

설명 **B** *I* U ~~S~~ **C** H1 H2 H3

Test

상태 \* 신규

우선순위 \* 보통

담당자

상위 일감

시작시간 2016-03-24

완료기한 2016-03-31

추정시간  시간

진척도 0%

파일  선택된 파일 없음 (최대 크기: 5 MB)

일감관람자  추가할 일감관람자 검색

# \* 일감 생성 확인

The screenshot displays a web-based project management interface. At the top, there's a navigation bar with links like '초기화면', '내 페이지', '프로젝트 관리', and '도움말'. The user is logged in as 'admin'. The main header shows 'test\_project' and a search bar. Below this is a sub-navigation bar with options like '개요', '작업내역', '일감', '새 일감만들기', 'Gantt 차트', '달력', '뉴스', '문서', '위키', '파일', and '설정'. The main content area is titled '새기능 #1' and contains a task card for 'Test'. The task card shows it was created by 'admin Admin이(가)' on 2016/03/24. It lists attributes: '상태: 신규', '우선순위: 보통', '담당자: -', '시작시간: 2016/03/24', '완료기한: 2016/03/31', and '진척도: 0%'. There are buttons for '설명', '하위 일감', and '연결된 일감'. A right sidebar shows '일감' management options like '모든 일감 보기', '요약', '달력', 'Gantt 차트', and 'Import', along with a '일감관람자 (0)' section. The bottom of the page has utility icons for editing, tracking, and deleting, and a footer with '네브네기 Atom | PDF'.

# \* Gantt 차트

초기화면 내 페이지 프로젝트 관리 도움말 로그인계정: admin 내 계정 로그아웃

## test\_project

검색:

개요 작업내역 일감 새 일감만들기 **Gantt 차트** 달력 뉴스 문서 위키 파일 설정

### Gantt 차트

▼ 검색조건

상태  검색조건 추가

▶ 옵션

개월 동안 | 다음부터    적용  지우기  저장

	2016-3			2016-4				2016-5				2016-6				2016-7					
	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
test_project			▶	▶																	
새기능 #1: Test			■	■																	
			신규 0%																		

#### 일감

모든 일감 보기  
요약  
달력  
Gantt 차트  
Import

Source Rate	Target Rate
4%	43.50%
5%	74.07%
6%	28.13%
7%	40.91%
8%	28.44%
9%	28.57%
10%	16.67%
11%	0.00%
12%	80.00%

Google Analytics

# \* 달력 기능

달력

검색조건

상태 진행 중 검색조건 추가

월 3월 | 연 2016 | 이전 다음 지우기 ◀ 2월 | 4월 ▶

	평요일	평요일	화요일	수요일	목요일	금요일	토요일
9	28	29	1	2	3	4	5
10	6	7	8	9	10	11	12
11	13	14	15	16	17	18	19
12	20	21	22	23	24	25	26
					<div style="background-color: #ffffcc; padding: 2px;"> <span>▶ 새기능 #1: Test</span> </div>		
13	27	28	29	30	31	1	2
					<div style="background-color: #ffffcc; padding: 2px;"> <span>▶ 새기능 #1: Test</span> </div>		

일감

- 모든 일감 보기
- 요약
- 달력
- Gantt 차트
- Import

Bounce Rate  
43.64%

New Visits	Bounce Rate
27.27%	43.50%
40.19%	74.07%
56.52%	29.13%
36.45%	40.91%
1.31%	38.44%
7.1%	28.57%
0%	10.07%
0%	0.09%
0%	80.00%

Google Analytics

A still life photograph of a desk. In the foreground, there are two carrots, a white USB cable, and two Energizer rechargeable batteries. In the background, there is a white desk lamp. The scene is set on a wooden surface.

# \*5. Jenkins와 연동

- Redmine, Github -

# \* Plug-In 설정

The screenshot shows the Jenkins administration interface. On the left sidebar, the 'Jenkins 관리' (Jenkins Management) menu item is highlighted with a red box. The main content area is titled 'Jenkins 관리' and contains several management options. The '플러그인 관리' (Plugin Management) option is also highlighted with a red box. Below it, the '시스템 정보' (System Information) option is visible. The '플러그인 관리' section includes a warning message about unsecured Jenkins and a button for '보안 설정' (Security Settings).

**Jenkins 관리**

역방향 프록시 설정이 잘못된 것으로 파악되었습니다. [추가 정보](#) [해제](#)

⚠ Jenkins 신규버전(1.654)을 [여기서](#) 받을 수 있습니다.([변경사항](#)).

⚠ Unsecured Jenkins allows anyone on the network to launch processes on your behalf. Consider at least enabling authentication to discourage misuse. [보안 설정](#) [Dismiss](#)

**시스템 설정**  
환경변수 및 경로 정보등을 설정합니다.

**Configure Global Security**  
Secure Jenkins; define who is allowed to access/use the system.

**Reload Configuration from Disk**  
Discard all the loaded data in memory and reload everything from file system. Useful when you modified config files directly on disk.

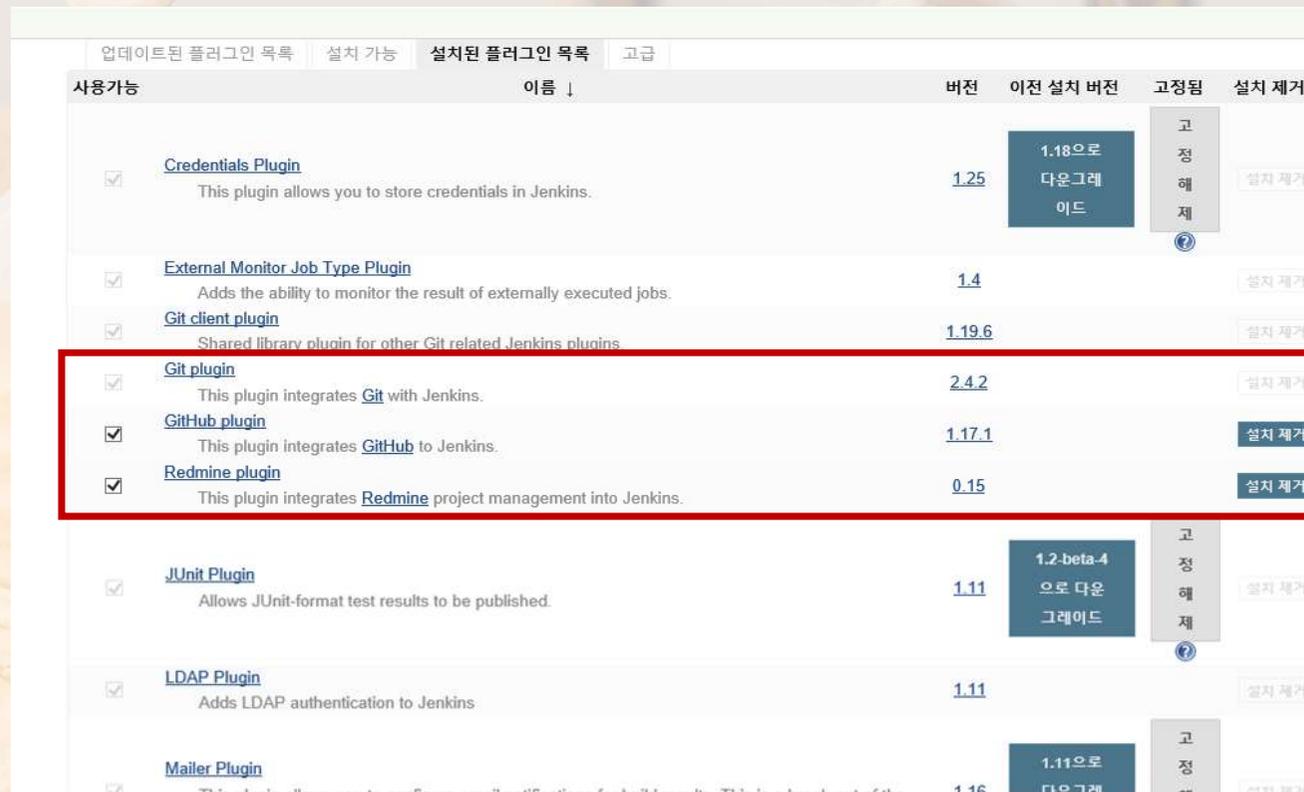
**플러그인 관리**  
Jenkins의 기능을 확장하기 위한 플러그인을 추가, 제거, 사용, 미사용으로 설정할 수 있습니다. **(업데이트 가능함)**

**시스템 정보**  
문제 해결을 돕기위한 다양한 환경 정보를 보여줍니다.

**System Log**  
System log captures output from `java.util.logging` output related to Jenkins.

**부하 통계**  
Check your resource utilization and see if you need more computers for your builds.

# \* Plug-In 설치



The screenshot shows the Jenkins 'Installed Plugins' page. A red box highlights the following plugins:

사용가능	이름 ↓	버전	이전 설치 버전	고정됨	설치 제거
<input checked="" type="checkbox"/>	<a href="#">Credentials Plugin</a> This plugin allows you to store credentials in Jenkins.	1.25	1.18으로 다운그레이드	고정됨	설치 제거
<input checked="" type="checkbox"/>	<a href="#">External Monitor Job Type Plugin</a> Adds the ability to monitor the result of externally executed jobs.	1.4			설치 제거
<input checked="" type="checkbox"/>	<a href="#">Git client plugin</a> Shared library plugin for other Git related Jenkins plugins	1.19.6			설치 제거
<input checked="" type="checkbox"/>	<a href="#">Git plugin</a> This plugin integrates <a href="#">Git</a> with Jenkins.	2.4.2			설치 제거
<input checked="" type="checkbox"/>	<a href="#">GitHub plugin</a> This plugin integrates <a href="#">GitHub</a> to Jenkins.	1.17.1			설치 제거
<input checked="" type="checkbox"/>	<a href="#">Redmine plugin</a> This plugin integrates <a href="#">Redmine</a> project management into Jenkins.	0.15			설치 제거
<input checked="" type="checkbox"/>	<a href="#">JUnit Plugin</a> Allows JUnit-format test results to be published.	1.11	1.2-beta-4 으로 다운 그레이드	고정됨	설치 제거
<input checked="" type="checkbox"/>	<a href="#">LDAP Plugin</a> Adds LDAP authentication to Jenkins	1.11			설치 제거
<input checked="" type="checkbox"/>	<a href="#">Mailer Plugin</a> This plugin allows users to configure email notifications for build results. This is a fork-out of the	1.16	1.11으로 다운그레이드	고정됨	설치 제거

# \* 시스템 설정(환경변수 및 Path 설정)

The screenshot shows the Jenkins administration interface. On the left sidebar, the 'Jenkins 관리' (Jenkins Management) option is highlighted with a red box. The main content area is titled 'Jenkins 관리' and contains several warning messages and configuration options. A red box highlights the '시스템 설정' (System Settings) option, which is described as '환경변수 및 경로 정보등을 설정합니다.' (Set environment variables and path information, etc.). Other options include 'Configure Global Security', 'Reload Configuration from Disk', '플러그인 관리' (Plugin Management), '시스템 정보' (System Information), 'System Log', '부하 통계' (Load Statistics), 'Jenkins CLI', and 'Script Console'.

**Jenkins 관리**

새로운 Item  
사람  
빌드 기록  
프로젝트 연관 관계  
파일 핑거프린트 확인  
**Jenkins 관리**  
Credentials

빌드 대기 목록  
빌드 대기 항목이 없습니다.

빌드 실행 상태  
1 대기 중  
2 대기 중

### Jenkins 관리

⚠ Jenkins 신규버전(1.654)을 여기서 받을 수 있습니다. (변경사항).  
Unsecured Jenkins allows anyone on the network to launch processes on your behalf. Consider at least enabling authentication to discourage misuse.

**시스템 설정**  
환경변수 및 경로 정보등을 설정합니다.

**Configure Global Security**  
Secure Jenkins; define who is allowed to access/use the system.

**Reload Configuration from Disk**  
Discard all the loaded data in memory and reload everything from file system. Useful when you modified config files directly on disk.

**플러그인 관리**  
Jenkins의 기능을 확장하기 위한 플러그인을 추가, 제거, 사용, 미사용으로 설정할 수 있습니다. (업데이트 가능함)

**시스템 정보**  
문제 해결을 돕기위한 다양한 환경 정보를 보여줍니다.

**System Log**  
System log captures output from `java.util.logging` output related to Jenkins.

**부하 통계**  
Check your resource utilization and see if you need more computers for your builds.

**Jenkins CLI**  
Access/manage Jenkins from your shell, or from your script.

**Script Console**  
Executes arbitrary script for administration/trouble-shooting/diagnostics.

보안 설정 Dismiss

# \* Redmine URL 설정

Jenkins > 환경설정

System Admin e-mail address

**SSH Server**

SSHD Port  Fixed :   Random  Disable

**GitHub Plugin Configuration**

Servers configs with credentials to manage GitHub integrations

List of GitHub Servers to manage hooks, set commit statuses etc.

**Redmine**

Redmine websites

Name	<input type="text" value="Redmine"/>
Base url	<input type="text" value="http://52.79.136.122/redmine/"/>
Version number	<input type="text" value="3.2.0"/>

## \* 프로젝트 생성

Jenkins

Item 이름

**A job already exists with the name 'test'**

- Freestyle project  
이것은 Jenkins의 주요 기능입니다. Jenkins은 어느 빌드 시스템과 어떤 SCM(형상관리)으로 묶인 당신의 프로젝트를 빌드할 것이고, 소프트웨어 빌드보다 다른 어떤 것에 자주 사용될 수 있습니다.
- Maven project**  
Maven 프로젝트를 빌드합니다. Jenkins은 POM 파일의 이점을 가지고 있고 급격히 설정을 줄입니다.
- External Job  
이 유형의 작업은 원격 장비처럼 Jenkins 외부에서 동작하는 프로세스의 실행을 기록하는 것을 허용합니다. 그렇게 설계되어서, 기존의 자동 시스템의 대시보드로서 Jenkins을 사용할 수 있습니다. 자세한 설명은 [여기\(영문\)](#)를 보세요.
- Multi-configuration project  
다양한 환경에서의 테스트, 플랫폼 특성 빌드, 기타 등등 처럼 다수의 서로다른 환경설정이 필요한 프로젝트에 적합함.
- 기존 Item 복사  
복사하려는 대상

새로운 Item

사람

빌드 기록

프로젝트 연관 관계

파일 핑거프린트 확인

Jenkins 관리

Credentials

빌드 대기 목록

빌드 대기 항목이 없습니다.

빌드 실행 상태

1 대기 중

2 대기 중

## \* 프로젝트 환경설정 - Github & Redmine URL 설정

The screenshot shows the Jenkins web interface for configuring the environment of a project named 'mvn\_test'. The page title is '환경설정' (Environment Settings). On the left, there is a navigation menu with options like '대시보드로 돌아가기', '상태', '변경사항', '작업공간', 'Build Now', 'Maven project 삭제', '구성', 'Modules', 'Redmine - test', 'GitHub Hook Log', 'Perform Maven Release', and 'GitHub'. Below the menu is a 'Build History' section showing a build #44 from 2016. 3. 15 오후 12:55.

The main configuration area is divided into two columns. The left column contains labels: '이름' (Name) with the value 'test', '설명' (Description), and a section for 'Assign Redmine project' which is checked. Under this section, 'Redmine website' is set to 'Redmine (http://52.79.136.122/redmine/)', and 'Redmine project name' is set to 'test'. Below that, 'Assign GitHub project' is also checked, and 'Project url' is set to 'https://github.com/aksjm2/2016sv.git'. There is a '고급...' (Advanced...) button to the right of these settings.

The right column contains a large text area for '설명' (Description) with a '[Plain text] 미리보기' (Preview) button below it. At the bottom of the page, there are several unchecked checkboxes: '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 (no new builds until project rebuilds)), and '필요한 경우 concurrent 빌드 실행' (Run concurrent builds if needed).

## \* 프로젝트 환경설정 - GitHub URL 설정

Jenkins > mvn\_test > 환경설정

find

빌드 안함 (프로젝트가 다시 빌드를 할 때까지 새로운 빌드가 실행되지 않습니다.)  
 필요한 경우 concurrent 빌드 실행

고급 프로젝트 옵션 고급...

소스 코드 관리

None  
 CVS  
 CVS Projectset  
 Git

Repositories

Repository URL  ?

Credentials   고급...

Branches to build

Branch Specifier (blank for 'any')  ?

Repository browser  ?

#44	2016. 3. 15 오후 12:55	
#43	2016. 3. 15 오후 12:54	
#42	2016. 3. 15 오후 12:54	
#41	2016. 3. 15 오후 12:48	
#40	2016. 3. 15 오후 12:45	
#39	2016. 3. 15 오후 12:40	
#38	2016. 3. 11 오전 3:25	
#37	2016. 3. 11 오전 3:25	
#36	2016. 3. 11 오전 3:21	
#35	2016. 3. 11 오전 3:20	
#34	2016. 3. 11 오전 3:20	
#33	2016. 3. 11 오전 3:19	
#32	2016. 3. 10 오후 2:34	
#31	2016. 3. 10 오후 2:32	
#30	2016. 3. 10 오후 2:23	
#29	2016. 3. 10 오후 2:22	
#28	2016. 3. 10 오후 2:20	
#27	2016. 3. 10 오후 2:12	
#26	2016. 3. 10 오후 2:12	

## \* 프로젝트 설정 - 자동 빌드 설정

The screenshot shows the Jenkins configuration page for a project named 'mvn\_test'. The left sidebar displays a list of recent build runs from #15 to #27. The main configuration area is titled '환경설정' (Environment Settings) and includes several sections:

- Additional Behaviours:** A section for adding custom build behaviors, currently empty.
- Check out to specific local branch:** A section with a 'Branch name' field set to 'master' and a '삭제' (Delete) button.
- Subversion:** A section with a radio button selected for '빌드 유발' (Build Triggers). This section is highlighted with a red box and contains the following options:
  - Build whenever a SNAPSHOT dependency is built
  - Build after other projects are built
  - Build periodically
  - Build when a change is pushed to GitHub
  - Poll SCM
- 빌드 환경 (Build Environment):** A section with a radio button selected for 'Maven release build'. It includes fields for 'Release goals and options' (set to '-Dresume=false release:prepare release:perform') and 'DryRun goals and options' (set to '-Dresume=false -DdryRun=true release:prepare').

Buttons for '저장' (Save) and '적용' (Apply) are located at the bottom of the configuration area.

# \* 프로젝트 생성 및 환경설정 결과

The screenshot shows the Jenkins web interface for a Maven project named 'mvn\_test'. The left sidebar contains navigation options, with 'Redmine - test', 'GitHub Hook Log', 'Perform Maven Release', and 'GitHub' highlighted in a red box. The main content area displays 'Maven project mvn\_test' with links to 'Workspace', 'Recent Changes', 'Latest Test Result (실패가 없습니다)', and '가장 최근 테스트 결과 (실패가 없습니다)'. Below this is a '고정링크' (Fixed Links) section with a list of build links. On the right, a '테스트 결과 현황' (Test Results Status) bar chart is shown, with a red box around it. The chart has a y-axis labeled 'count' from 0 to 1 and an x-axis with build numbers #7 through #44. A blue bar at #44 indicates a count of 1. A legend in the top right of the chart area includes '상세 내용 입력' and '프로젝트 중지하기'.

**Build History**

Build Number	Time
#44	2016. 3. 15 오후 12:55
#43	2016. 3. 15 오후 12:54

**고정링크**

- [Last build, \(#44\), 8 days 22 hr 전](#)
- [Last stable build, \(#44\), 8 days 22 hr 전](#)
- [Last successful build, \(#44\), 8 days 22 hr 전](#)
- [Last failed build, \(#43\), 8 days 22 hr 전](#)
- [Last unsuccessful build, \(#43\), 8 days 22 hr 전](#)
- [Last completed build, \(#44\), 8 days 22 hr 전](#)

**테스트 결과 현황**

count

#7 #8 #9 #10 #12 #17 #37 #38 #43 #44

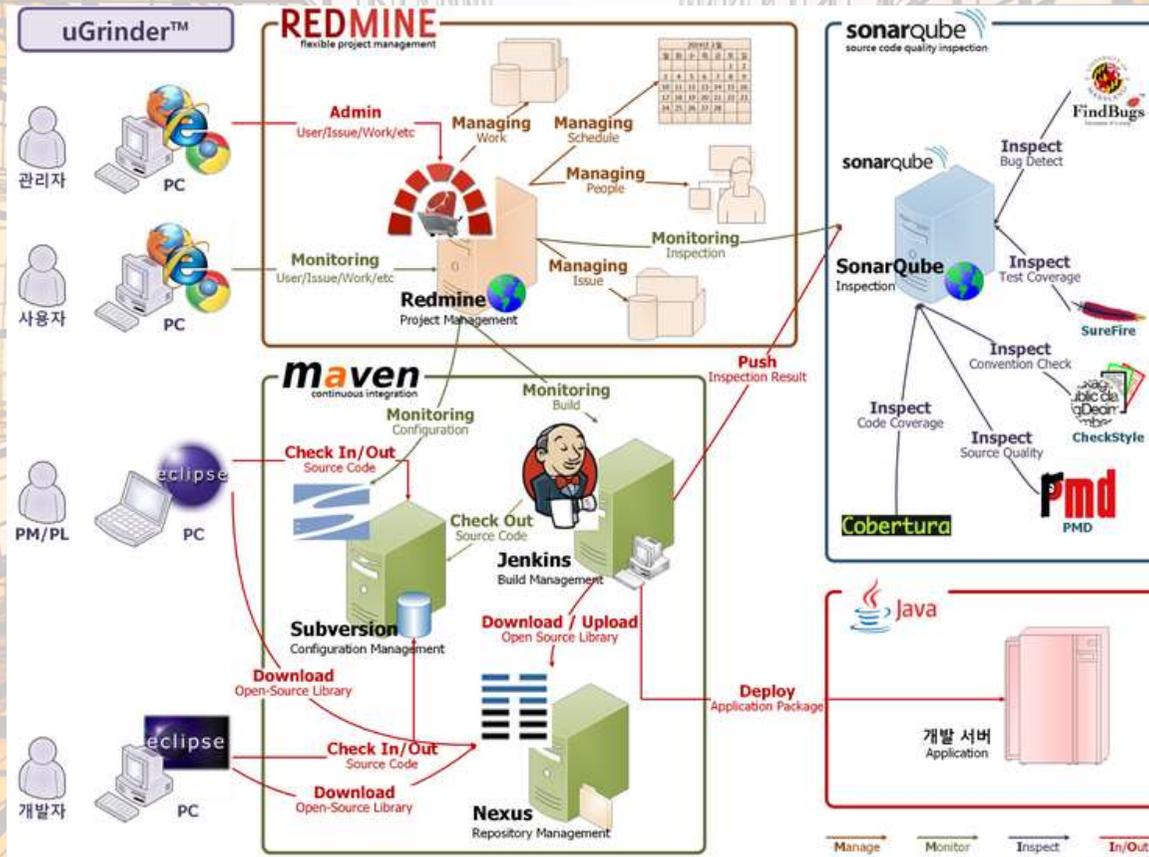
(실패한 테스트만 보기) 크게보기



# \* 6. CTIP 환경 구축

- Team 3 -

# \* CTIP – 전자정부 Framework



## \* CTIP - 환경 구축 현황



ubuntu





**\* 7. Q&A**



**Thank You**