

CM Tools & RE Tools

T2

200511318 김희재

200511326 박현진

200711436 서영주

200913987 이승효

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- ◆ **JFeature**
- ◆ **OSRMT**

CM Tools

- **Configuration Management**
- **CVS**(Concurrent Version System)
- **SVN**(SubVersion)
- **Github**

Configuration Management

◆ *Configuration Management*

- **형상관리**

특정 항목의 변화에 대해 관리하면서 시스템의 통합과 일치를 보장

◆ *Software Configuration Management*

- **소프트웨어 버전 관리**

- **버전관리**

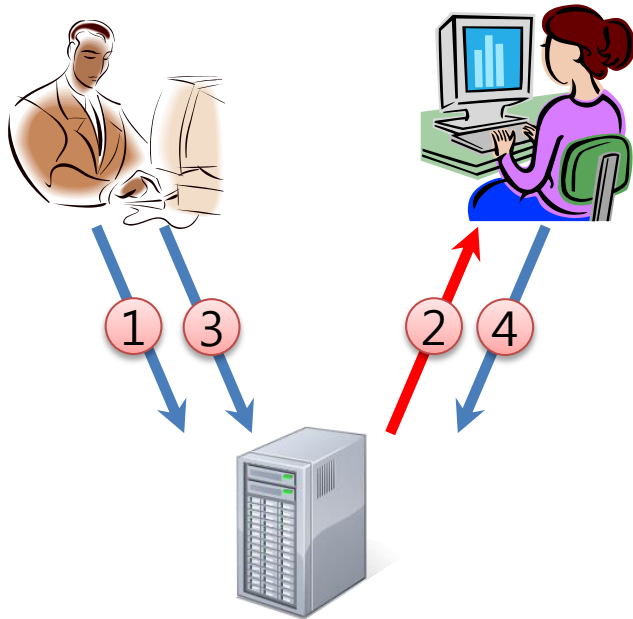
- 소프트웨어 개발시에 발생하는 모든 작업을 버전화하고 소스를 버전 별로 관리하는 것

- **버전 관리 시스템의 필요성**

1. 개발 버전과 릴리즈 버전을 섞이지 않고 쉽게 관리할 수 있다.
2. 소스를 잘못 수정했더라도 기록이 남고 되돌리기가 쉽다.
3. 수정, 추가, 삭제 등의 기록이 모두 남고 변경 사항을 추적하기 쉽다.
4. 개발자들이 따로 따로 백업을 하지 않아도 된다.

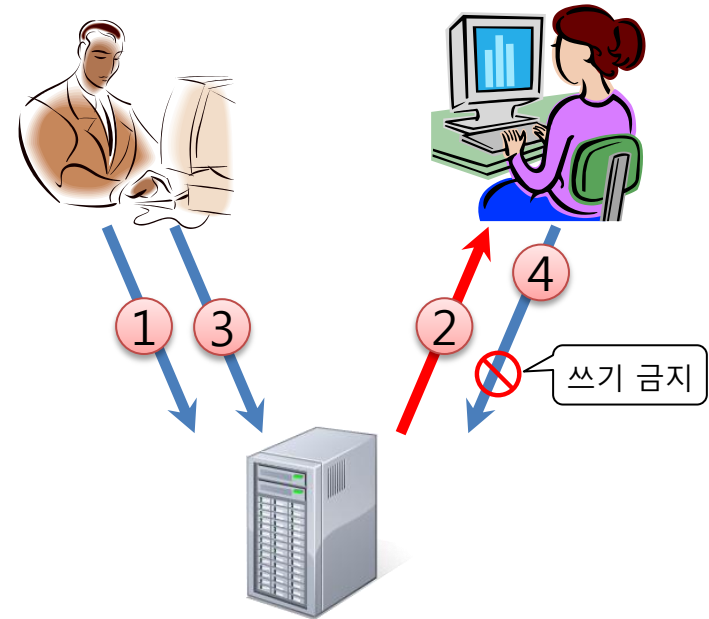
Configuration Management

버전관리 사용(x)



- ① 남자가 파일을 열람하여 수정
 - ② 여자가 수정하기 전 파일을 open
 - ③ 남자가 수정하여 파일을 저장
 - ④ 여자가 수정하기 전 파일을 그대로 저장
- 파일에는 남자가 수정하기 전의 파일이 저장되어있음.

버전관리 사용



- ① 남자가 파일을 열람하여 수정
- ② 여자가 수정하기 전 파일을 open
- ③ 남자가 수정하여 파일을 저장
- ④ 여자가 수정하기 전 파일을 저장하려하나, → CVS 서버에서 여자가 업로드한 파일이 이전 버전이므로 쓰기가 금지됨

CM Tool의 종류

	CVS (Concurrent Version System)	VSS (Visual SourceSafe)	Clear-Case
시각적 소스 비교	X	O	O
빌드 관리	X	X	X
CLI	O	O	O
지원 플랫폼	Linux, Unix, Win	Windows	Linux, Unix, Win
버전관리 방식	수정병합	예약잠금	예약잠금
제조사	Cyclic S/W	MS	Rational
가격	무료	80~90만원선	사용자당 800만원

CM Tools

- Configuration Management
- **CVS**(Concurrent Version System)
- **SVN**(SubVersion)
- **Github**

CVS (Concurrent Version System)

◆ CVS

- 대부분의 오픈 소스 프로젝트에서 사용
- 혼자하는 개발, 팀을 이루는 개발, 다국적 개발 등에 유용
- 클라이언트 서버 구조로 잠금 상태를 예약하지 않는 수정병합 방식으로 같은 소스의 동시 작업이 가능

※ 수정병합방식

- 동시에 하나의 파일을 작업해도 충돌되는 부분을 확인, 수정 가능하다.
- 동시 작업이 가능하므로 시간의 구애를 덜 받는다.

◆ 종류

- WinCVS, CVSNT 등의 클라이언트 프로그램이 존재
- 이클립스, NetBeans, JBuilder, Idea(intelij) 등 개발 툴에 기본으로 통합

CVS (Concurrent Version System)

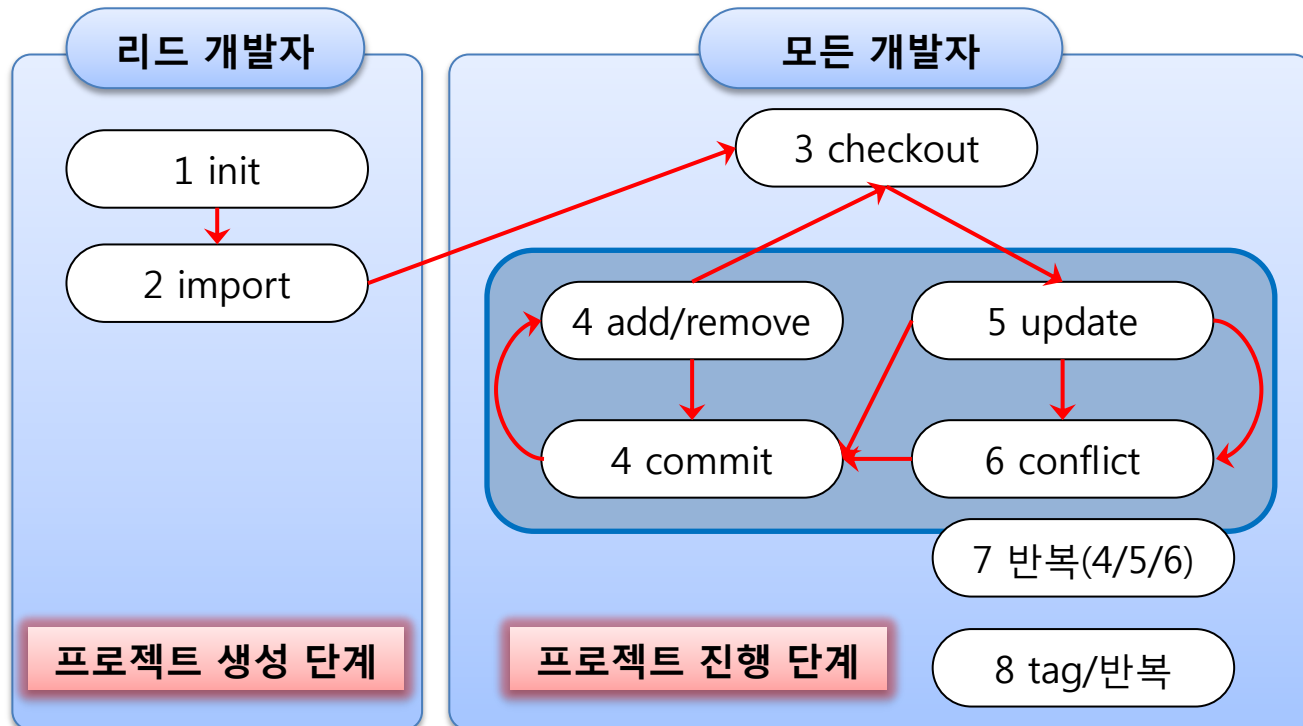
◆ 기능

History	소스 파일의 추가/수정/삭제. 즉, 모든 History 가 CVS 서버에 기록. 작업 완료 시에 작업 내용을 기록 에 남길 수 있음.
변경사항 저장	버전간의 변경사항만을 저장 하므로 백업 용량을 적게 차지
병합	각 개발자가 작업을 끝마쳤을 때, 그 작업을 병합시켜줌으로써, 팀원이 하나의 공동 프로젝트를 수행하고자 할 때 도움을 줌
Branch	개발의 주된 흐름인 메인 줄기(trunk)의 특정 진행 시점에서 갈라져 나와 소스를 변경해도 메인 줄기에는 영향을 미치지 않음
Tag	개발의 특정 시점에 버전을 따는 기능
Diff	버전과 버전, 태그와 태그간에 소스의 차이점을 비교

CVS (Concurrent Version System)

◆ 작업 사이클

- **프로젝트 생성 단계** : 프로젝트를 생성하고, CVS 서버에 모듈을 import
- **프로젝트 진행 단계**
 - 모든 개발자는 import된 프로젝트 모듈을 다운로드 (Checkout).
 - 다운로드한 모듈의 소스를 변경/추가/삭제하는 등 프로젝트를 진행



CM Tool - cvs

<< CVSNT >>

- Eclipse와 연동이 가능
- 모든 옵션을 찾아서 선택하므로,
GUI를 이용한 직관적인 관리가 가능
- 무료!!

CVSNT

◆ CVSNT의 설치

- <http://www.march-hare.com/cvspro/> 에서 설치파일 다운로드하여 설치

CVS Suite 2009R2
[CVSNT 2.8 build 4465 - April 2, 2012]

New Features Overview Open Source Tech Specs Support

Download the free trials

- Suite Windows Trial - with High Performance Server, Bugzilla plugin (or Mantis or Atlassian Jira) and CVS Suite Studio, SCCI plus Comprehensive Documentation
- Mac Intel 10.4+ Suite Trial.
- RedHat x86 RPM Suite Trial.

Sign-Up

Contact me regarding CVS Suite, CM Server or Professional Support.

Email Address

Download Location

UK (Surrey)

Download Now

Other downloads:
[Downloads for HPUX, Solaris, Source Code & more.](#)
Announcement: Community Edition [retired.](#)

CVSNT 2.8.01 only available in CVS Suite 2009R2

Work quickly and efficiently - all new Suite Studio client, Visual Studio Integration (SCCI) High Performance server including failsafe audit, merge tracking and change linking together with the included integration to Jira, Mantis and Bugzilla. All this for only £85 - €96 - \$

CVS Suite Studio 2.8.01.3839 (Trial Version)

File View Help

win7prox32

test repo

- cvst
- CVSNT_1_11_1
- CVSNT_2_0_19
- CVSNT_2_0_4
- CVSNT_2_0_5
- CVSNT_2_0_5
- CVSNT_2_0_x
- cvst.sln
- cvst.vcpi
- depcomp
- extntini (
- protocol_
- relnotes.r
- version.h
- version_fu
- version_n
- Workspace
- cvst.cpl

Desktop

My Documents

mog

Name

- MainFrm.cpp
- MainFrm.h
- res
- resource.h
- StatLink.cpp
- StatLink.h
- stdafx.cpp
- stdafx.h
- ViewDlg.cpp
- ViewDlg.h
- WorkspaceViewer
- WorkspaceViewer
- WorkspaceViewer
- WorkspaceViewer
- WorkspaceViewer
- WorkspaceViewer

New Directory

Delete

New Tag

New Branch

Open

Open With...

Annotate

Log

Permissions

Properties

CVS Suite Trial 2009 [4465] Setup

CVS Suite Trial 2009 [4465]

March Hare Software's CVS Suite Trial 2009 [4465] helps you and your teammates to manage change by recording alterations to documents and files on your computer and communicating the relationships between changes to your team.

For CVS Suite Client users to authenticate with Windows Active Directory Domain usernames and passwords, install CVS Suite Server as a DOMAIN ADMINISTRATOR.

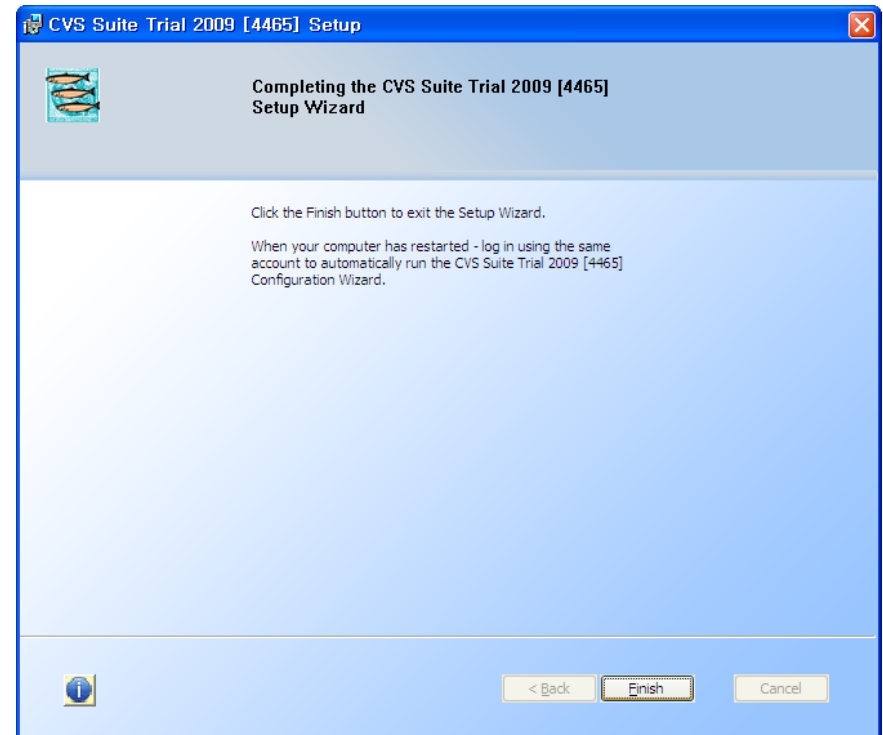
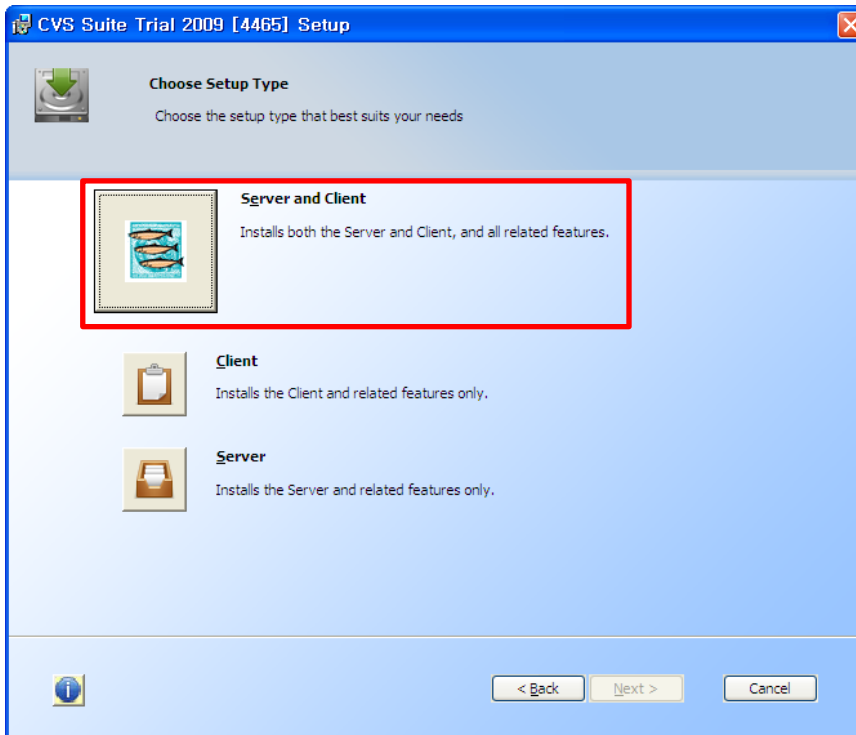
To complete the installation you will need to reboot this computer.

< Back Next >

CVSNT

◆ CVSNT의 설치

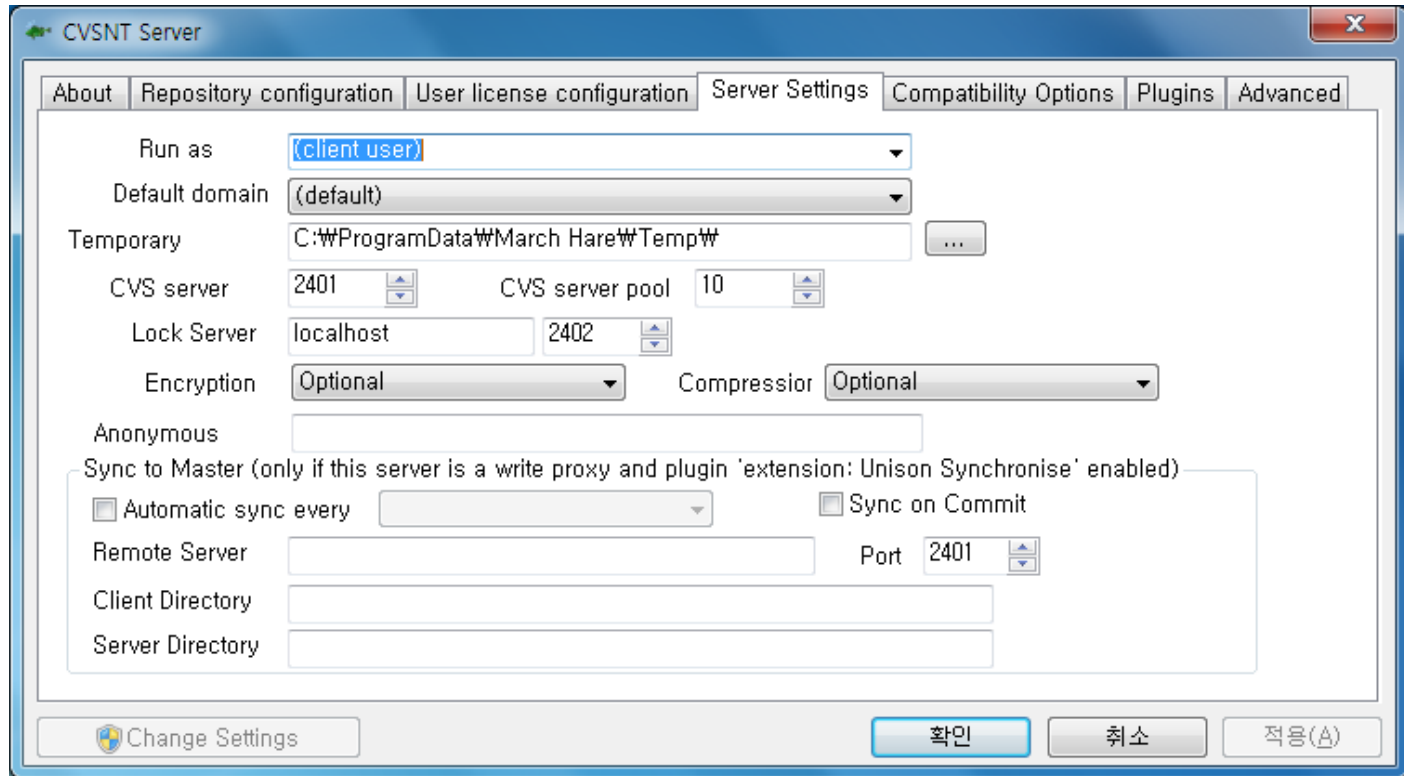
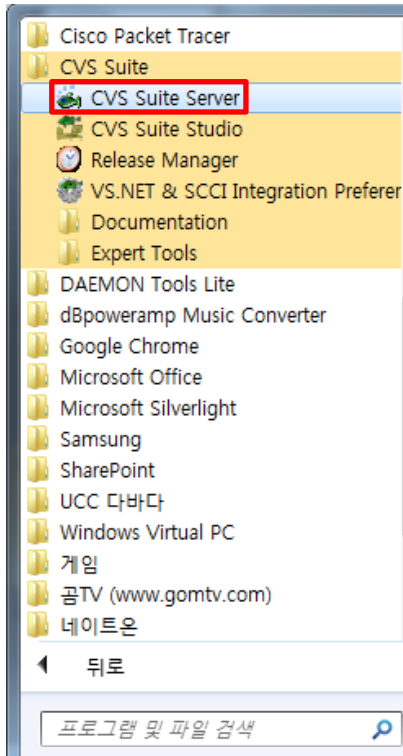
- Server and Client 선택하여 설치



CVSNT

◆ CVSNT의 환경설정

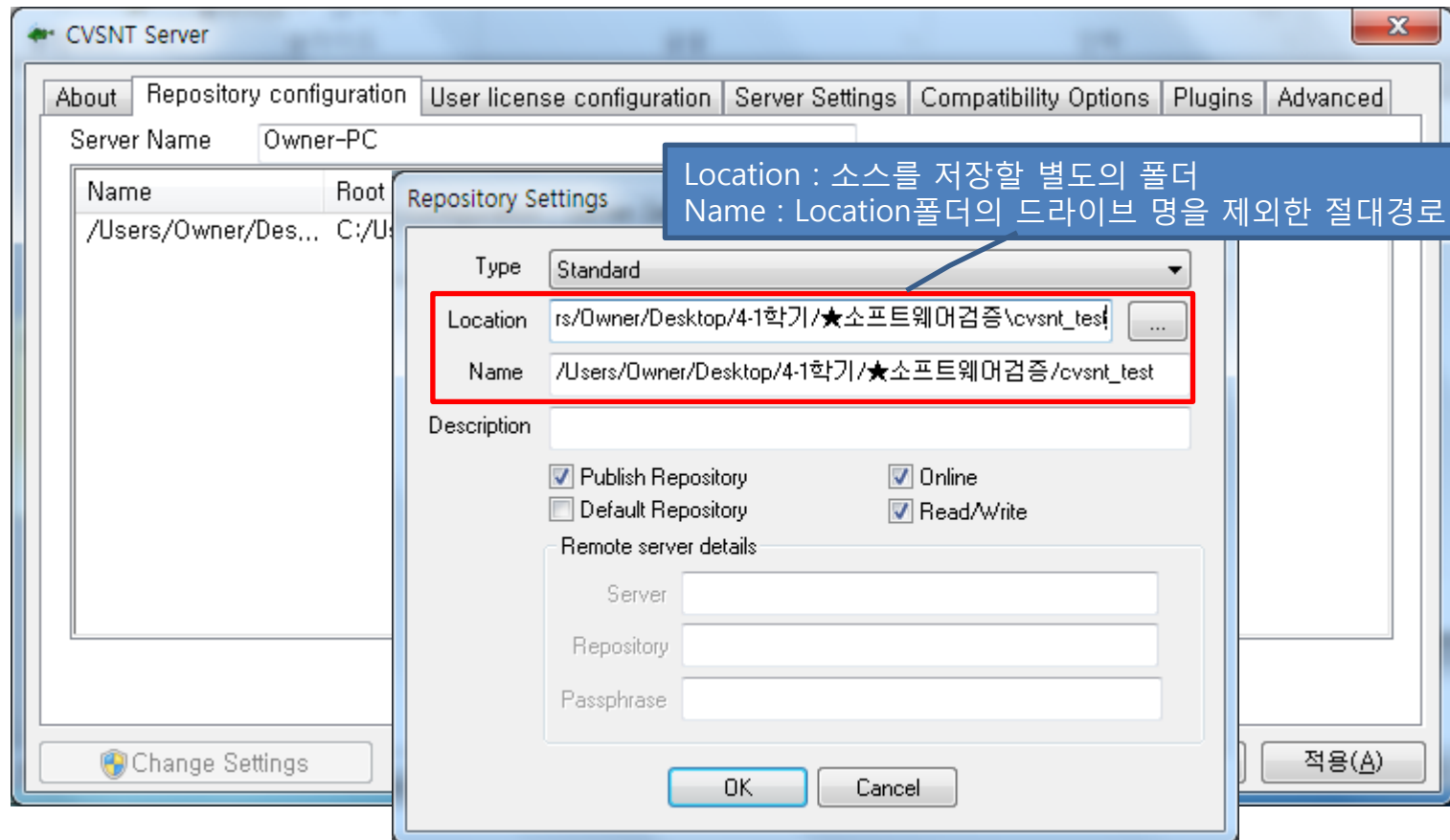
- CVS 접속 계정에 관한 내용



CVSNT

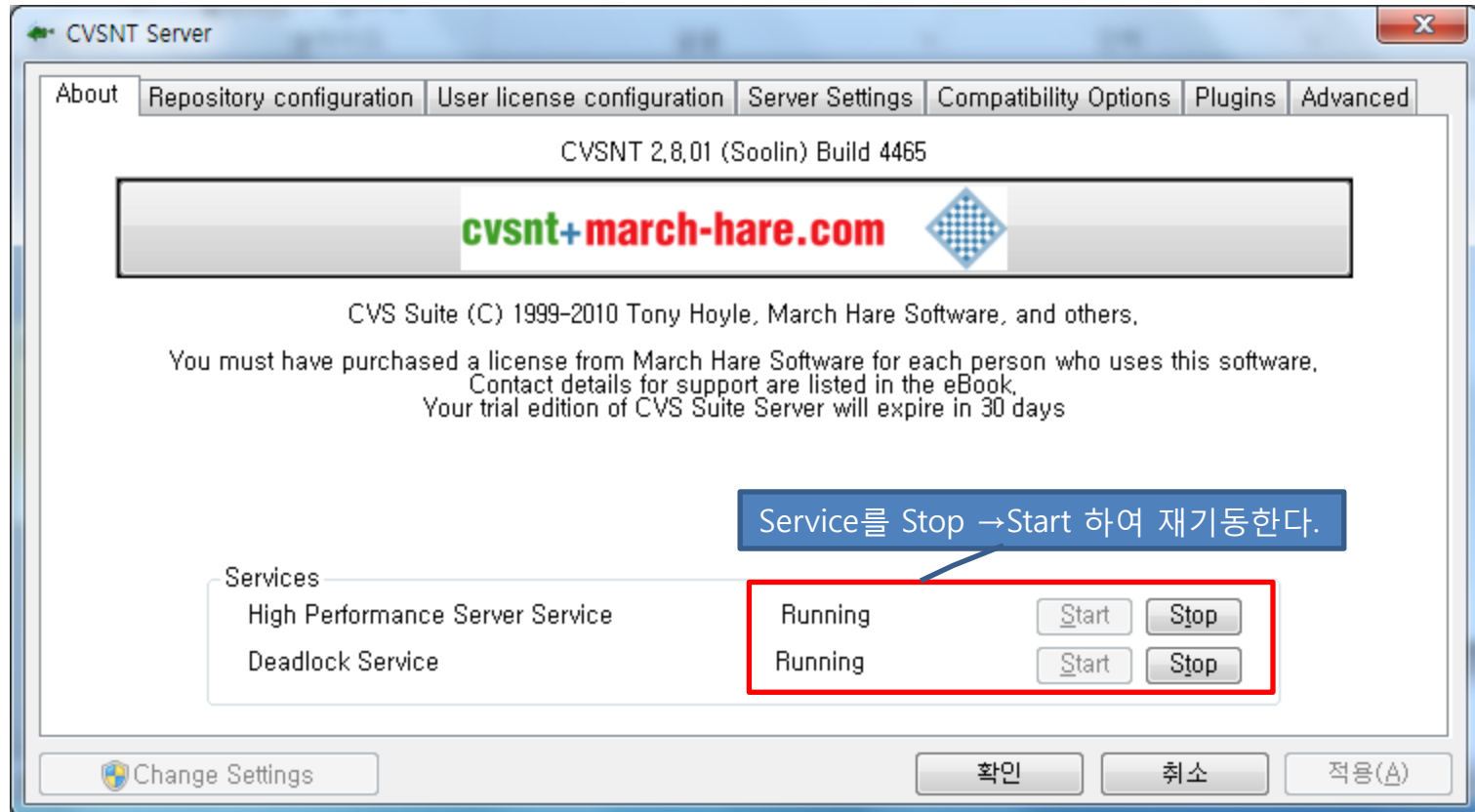
◆ *Repository Configuration*

- Local에서 Repository가 될 경로를 지정



CVSNT

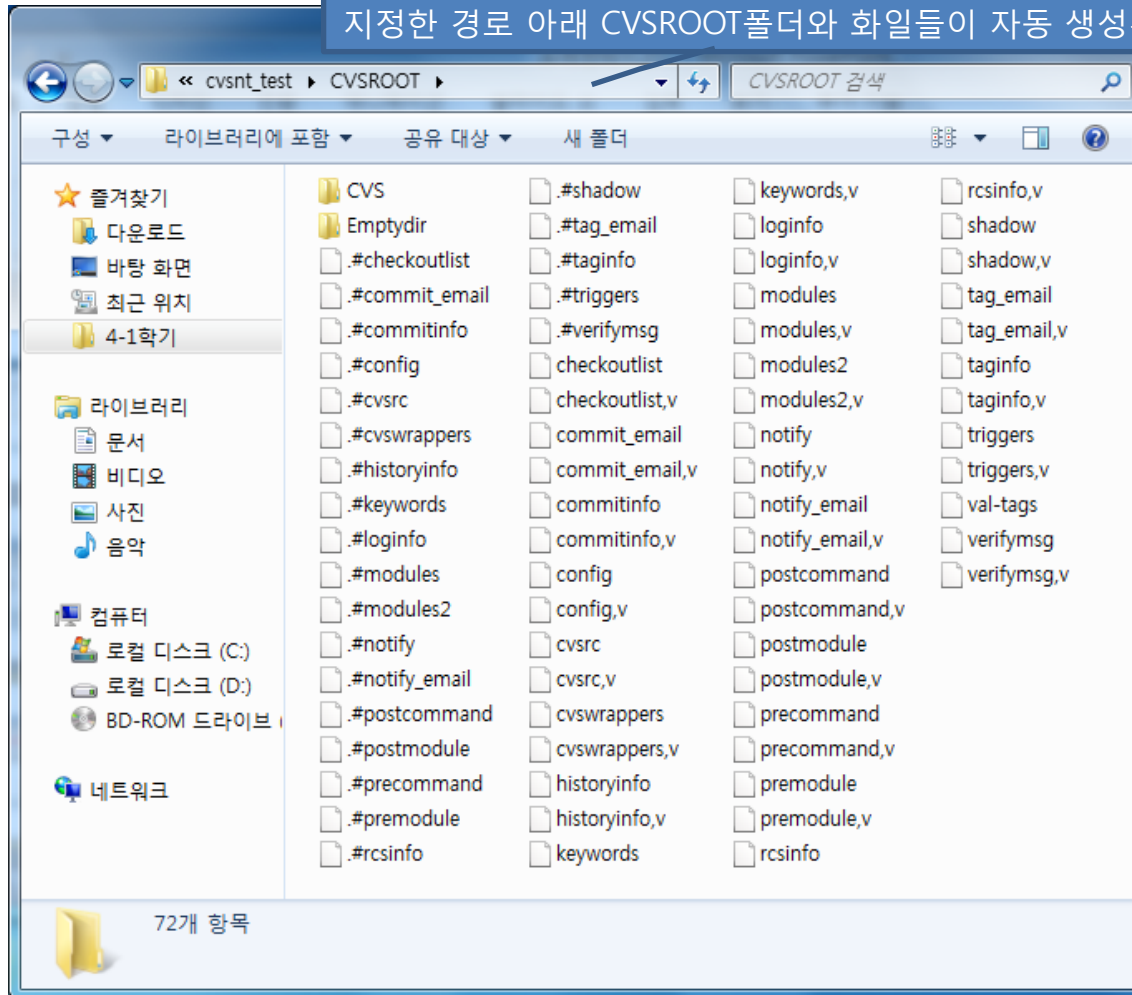
◆ Service 재가동



CVSNT

◆ Repository 경로 아래 파일 생성

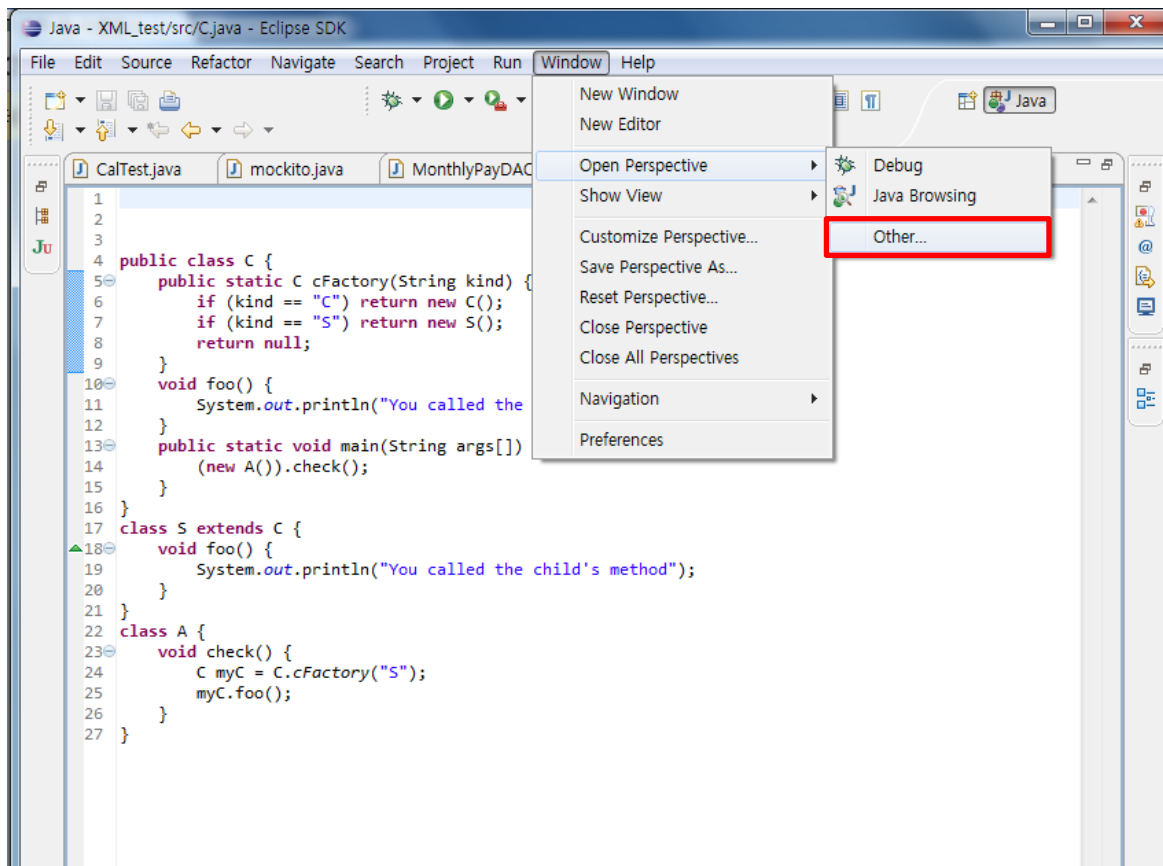
지정한 경로 아래 CVSROOT폴더와 화일들이 자동 생성된다.



CVSNT

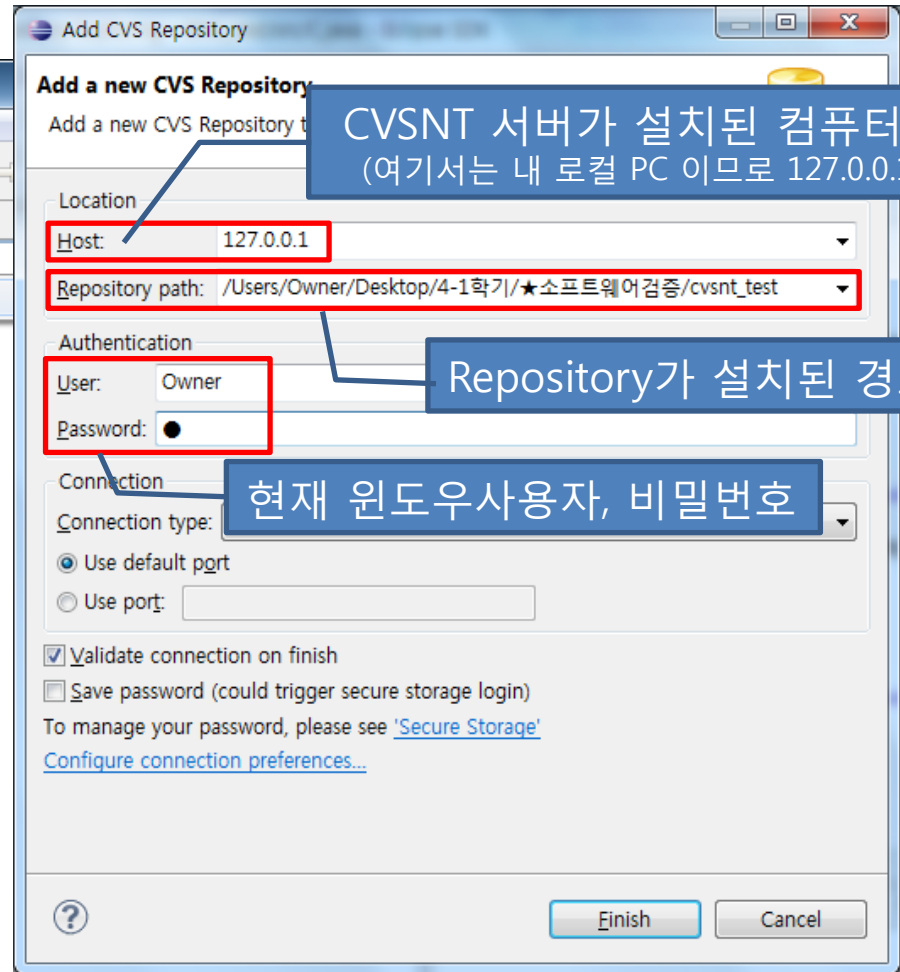
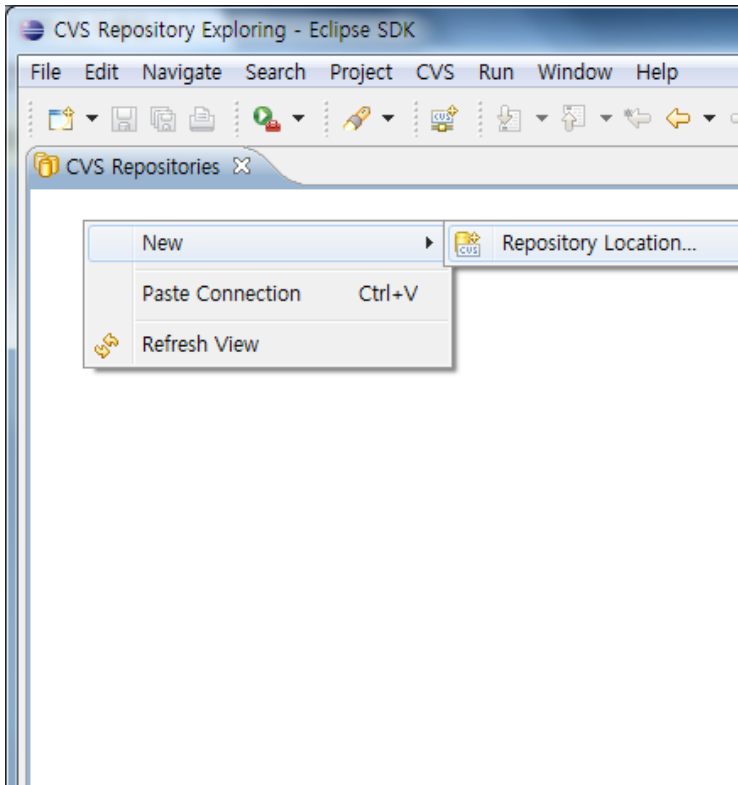
◆ Eclipse와 연동

- Windows – Open Perspective – Other – CVS Repositories



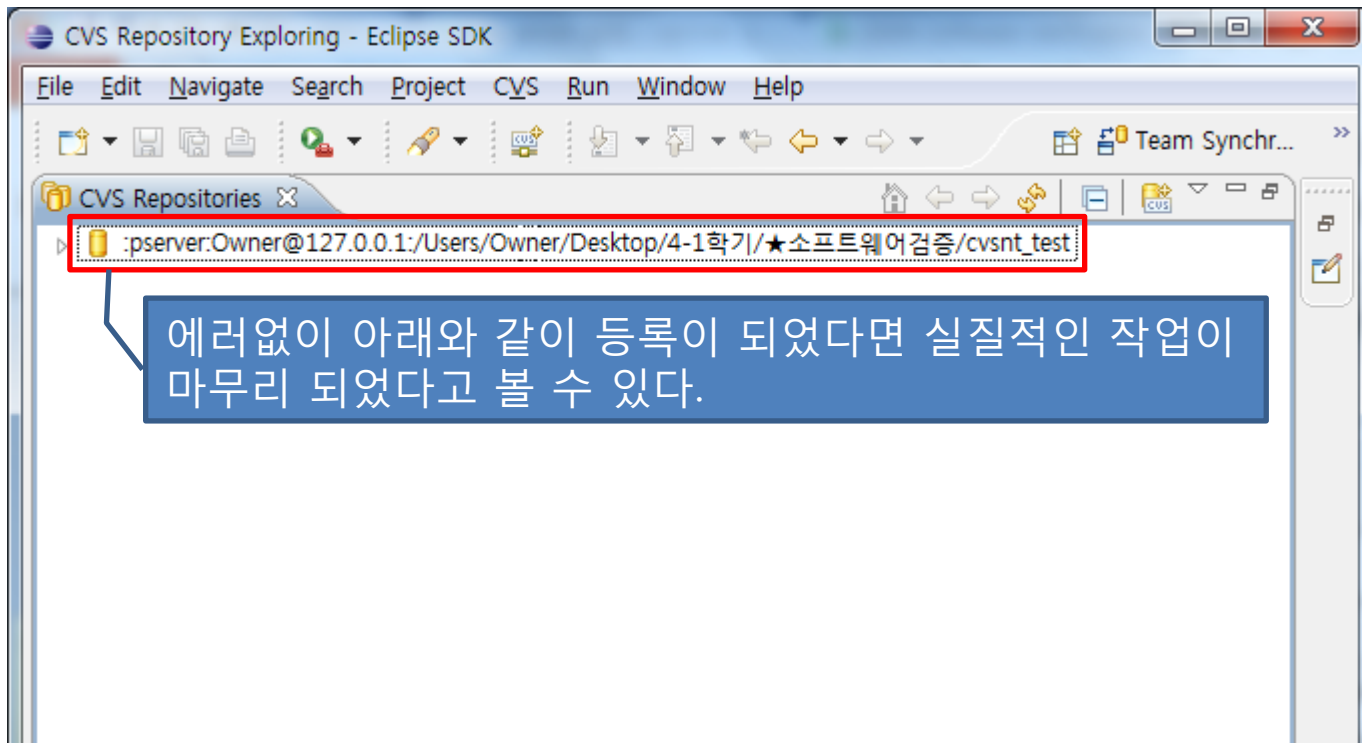
CVSNT

◆ Repository 설정



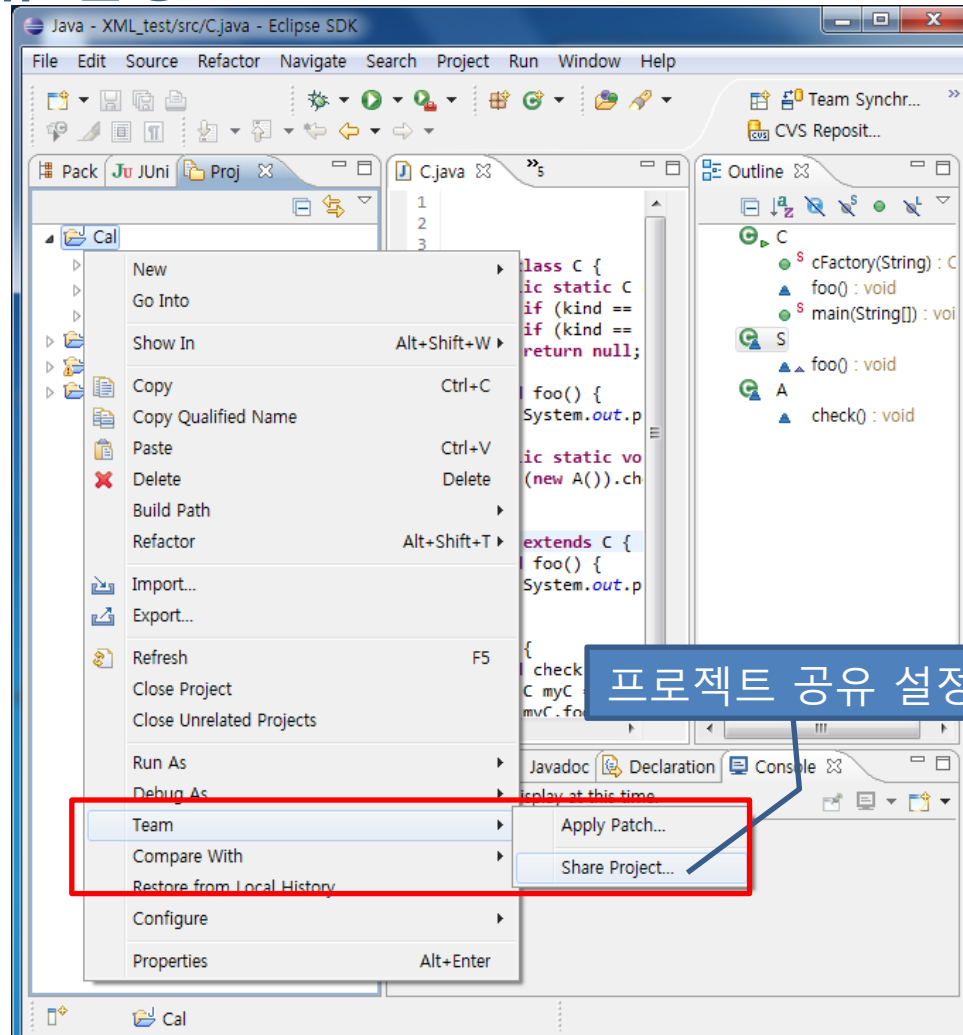
CVSNT

◆ Repository 설정 완료



CVSNT

◆ 프로젝트 공유 설정



CVSNT

Share Project with CVS Repository
Select an existing repository location or create a new location.

This wizard will help you to share your files with the CVS repository for the first time. Your project will automatically be imported into the CVS repository, and the Commit wizard will open to allow you to commit your resources.

Create a new repository location
 Use existing repository location:
:pserver:Owner@127.0.0.1:/Users/Owner/Desktop/4-1학기/★소프트웨어검증/cvsnt...

Enter Module Name
Select the name of the module in the CVS repository.

Use project name as module name
 Use specified module name:
 Use an existing module (this will allow you to browse...)
 Use project name as module name and place it under...

Share Project Resources
Review and commit resources to the repository. Use the following operations on the resources.

CVS (Cal)

- Cal
 - src
 - Settings
 - .classpath
 - .project

Cal [127.0.0.1]

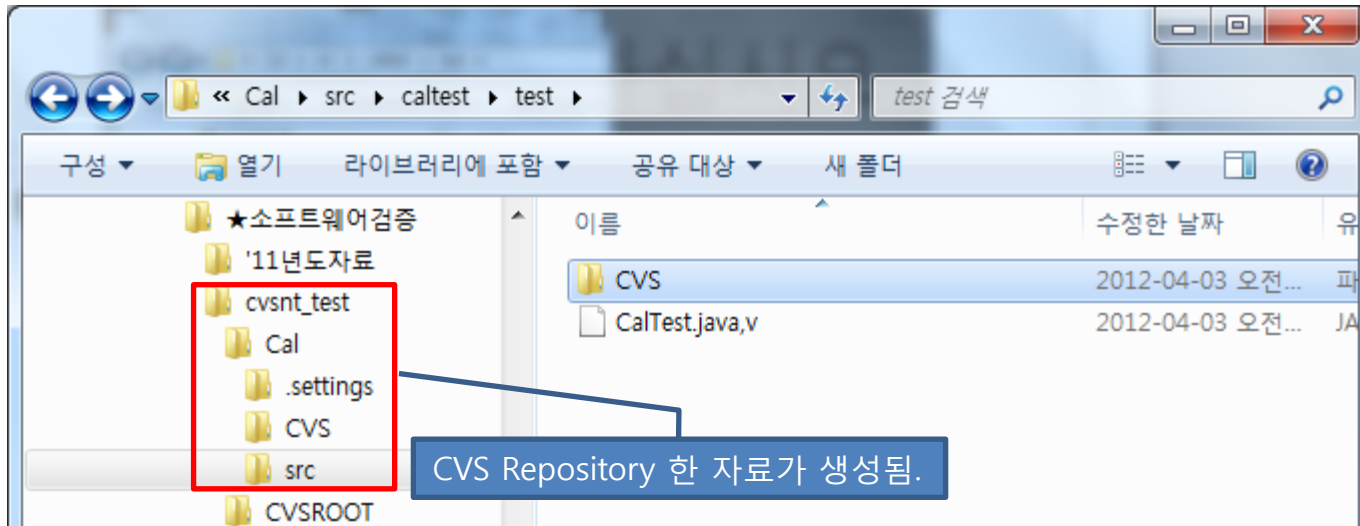
- src
 - caltest.junit
 - Cal.java 1.1
 - caltest.test
 - CalTest.java 1.1
- JRE System Library [JavaSE-1.6]
- JUnit 4

Launch the Commit wizard

Annotations:
- "모듈의 이름을 선택하고" (Select the module name) points to the "Enter Module Name" dialog.
- "프로젝트 창에서 소스를 살펴보면 아래와 같이 파일명 뒤에 소스 버전정보가 나타난 것을 알 수 있다." (If you look at the source in the project window, you can see that source version information appears after the filename like this.) points to the file names in the "Share Project Resources" dialog.

CVSNT

◆ 공유 프로젝트 폴더 생성



CM Tools

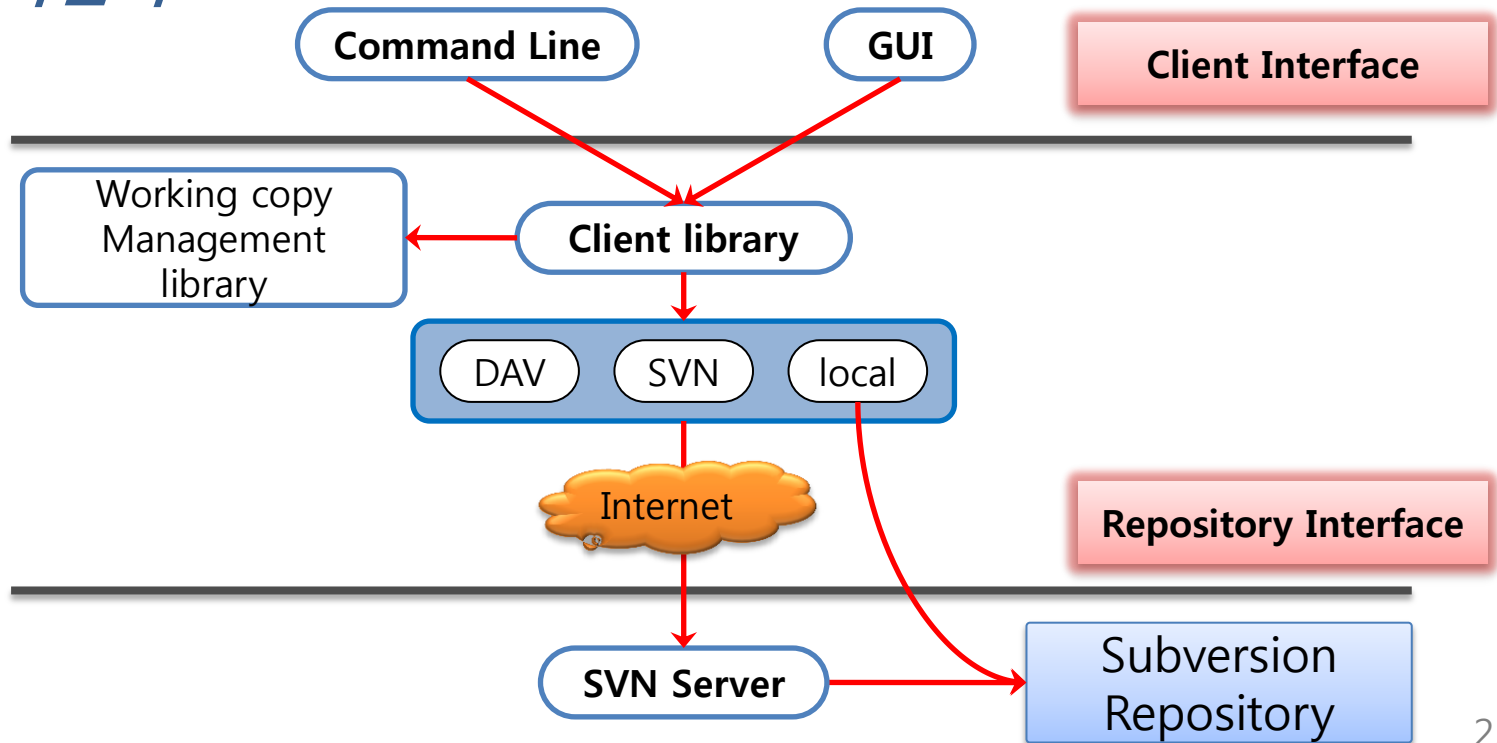
- Configuration Management
- CVS(Concurrent Version System)
- **SVN**(SubVersion)
- Github

SVN (SubVersion)

◆ SVN

- Subversion은 CVS를 대체하기 위해 개발
- 소스 코드, 바이너리 파일 등의 여러가지 형식의 파일을 관리 할 수 있다.

◆ 동작원리



SVN (SubVersion)

◆ 기존 CVS와의 차이점

	SVN	CVS
버전관리	중앙저장소(형상관리)	파일별
파일수정시	디렉토리 전체의 버전이 달라짐	파일 하나의 버전이 달라짐

→ 즉, 프로젝트를 수정시 SVN은 기본적 환경을 돌려주고,
CVS는 일부만 돌려줌.



CVS → 각 파일 별로 작업
SVN → 한번 작업으로 3일 전 상태로 복구

SVN의 장점

◆ 디렉토리 이동이 편리

- CVS에서는 이력을 남길 수 없음
- 초기 프로젝트 셋업시 디렉토리 이동이나 파일 삭제 / 이름 변경이 편리

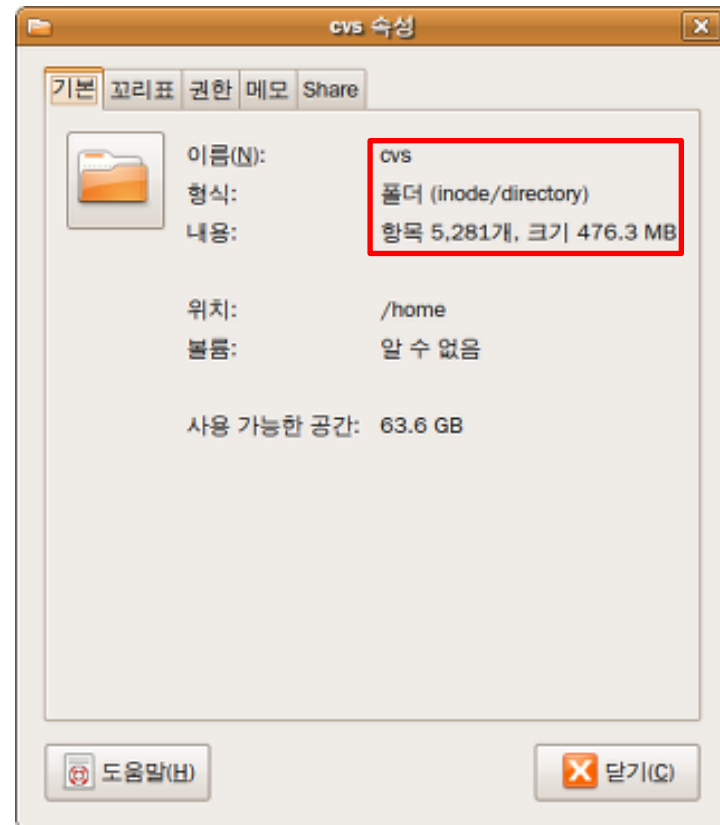
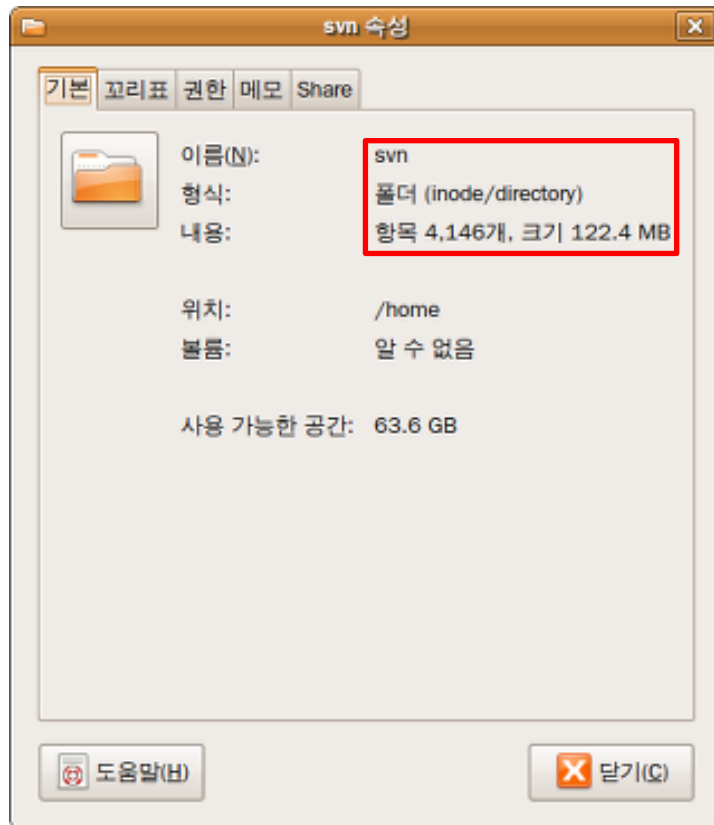
◆ 오프라인 사용이 용이

- CVS에서는 항상 서버와 비교하기 때문에 오프라인에서는 불가
- 마지막 버전과 Diff가 가능

SVN의 장점

◆ 서버 하드공간이 절약

- CVS를 CVS2SVN으로 변환해본 결과 25% 이상의 공간이 절약됨
- 초기에는 업로드를 원본으로 올리지만, Diff내용을 gzip으로 압축



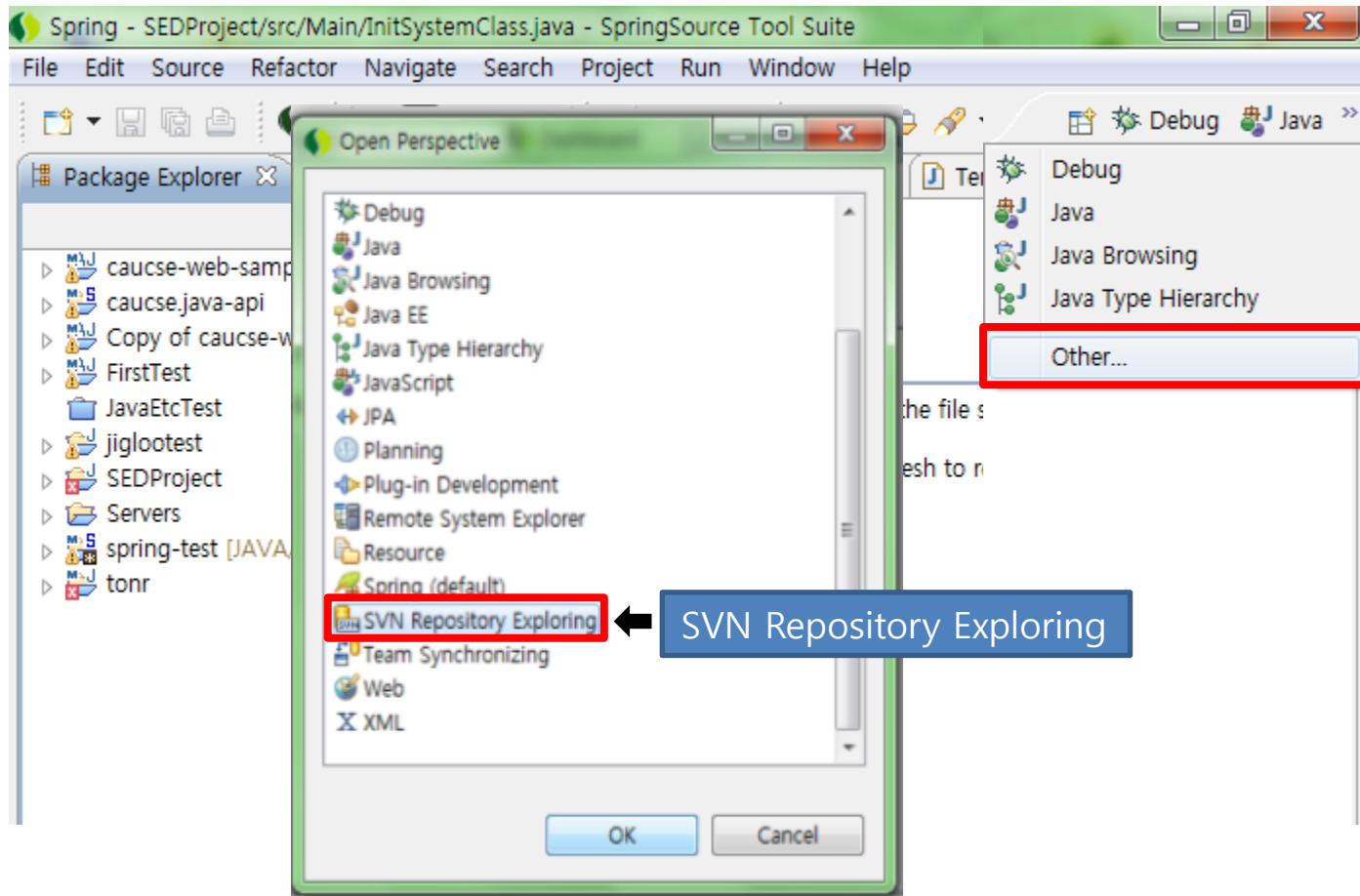
CM Tool - SVN

<< Subclipse >>

- Eclipse 내에 Subversion 과 같은 역할을 하는 플러그인

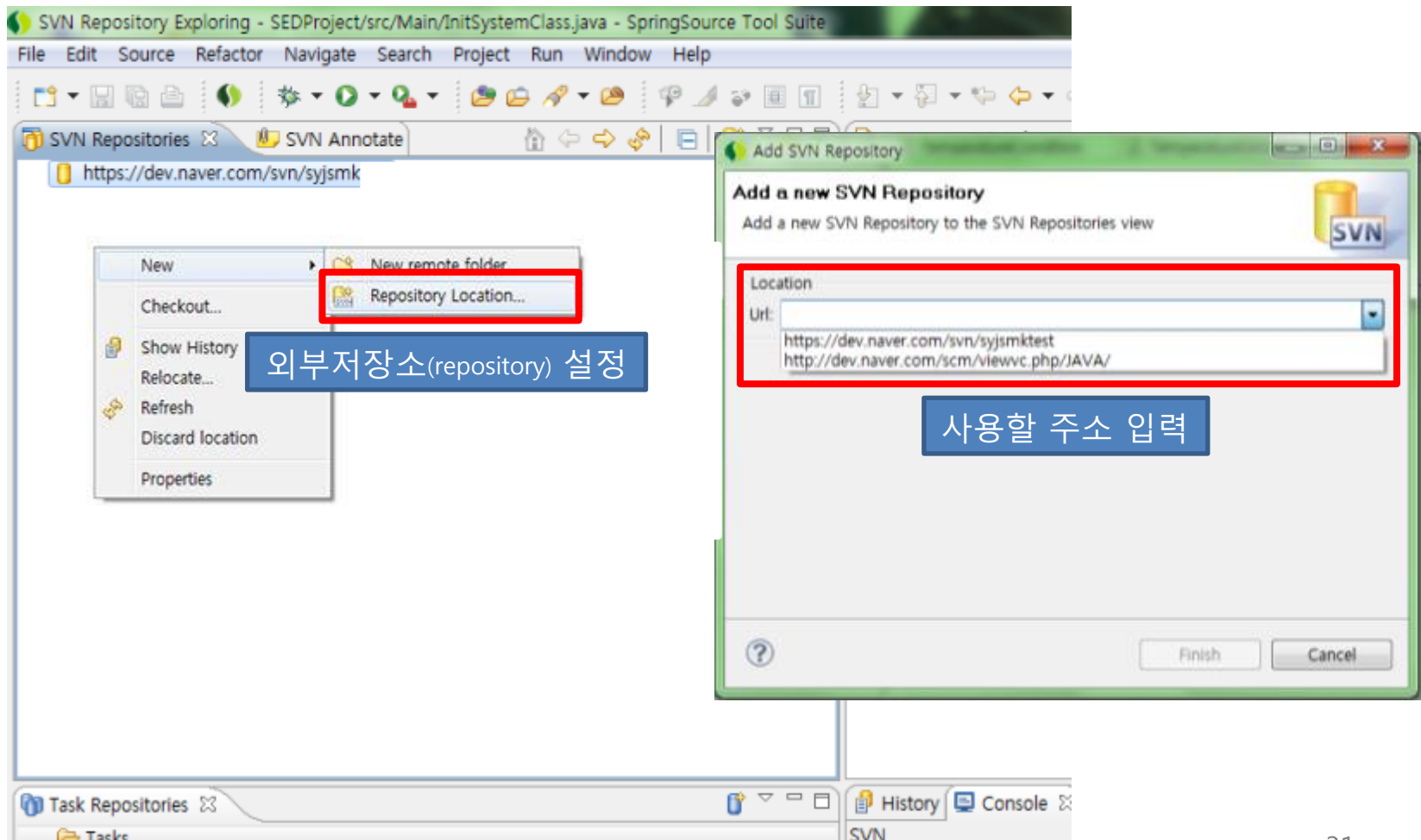
Subclipse

◆ Subclipse의 실행과정



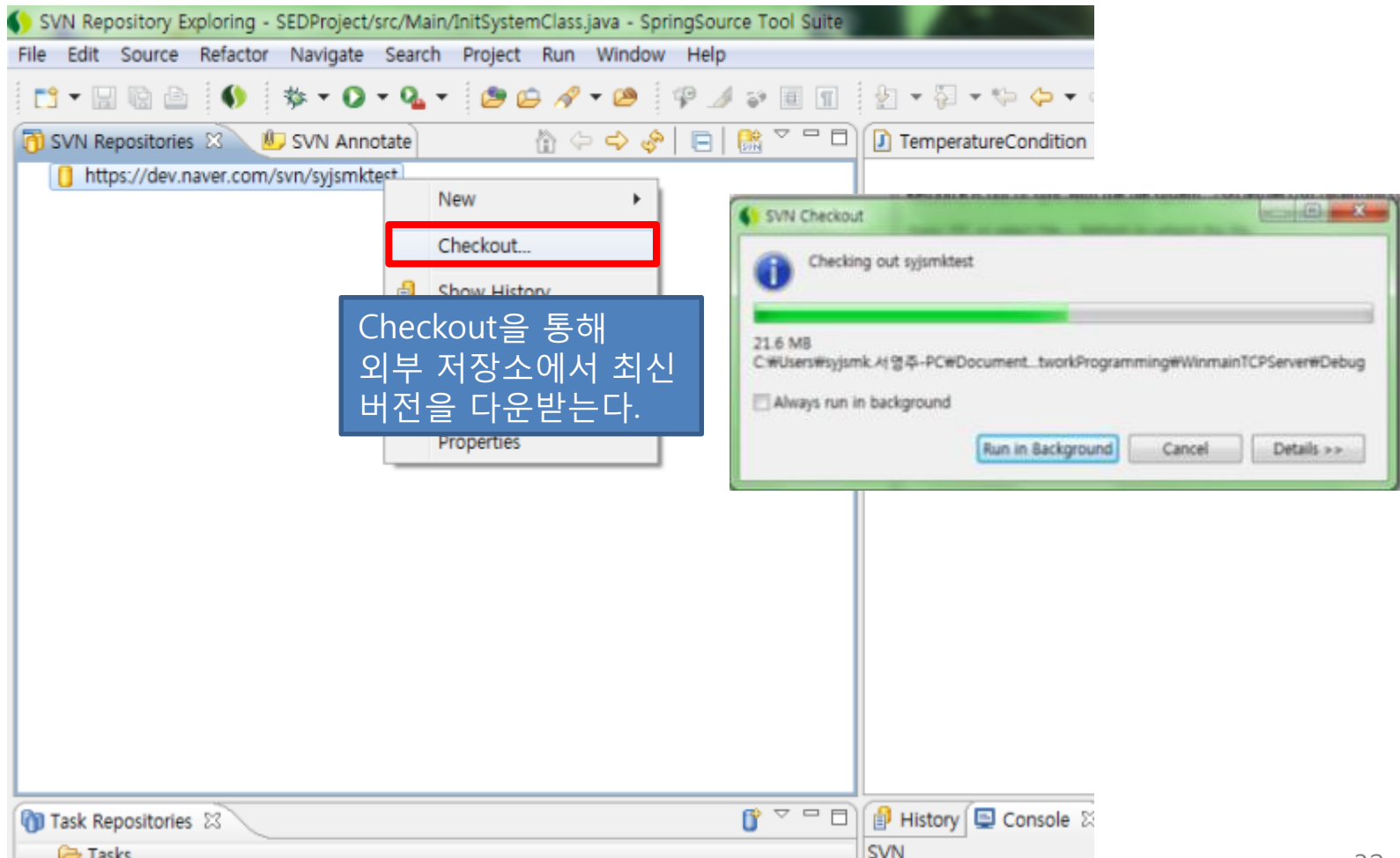
Subclipse

◆ Subclipse의 실행과정



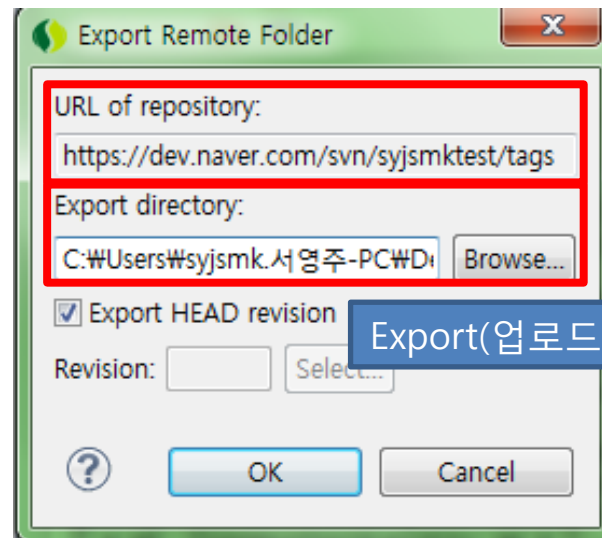
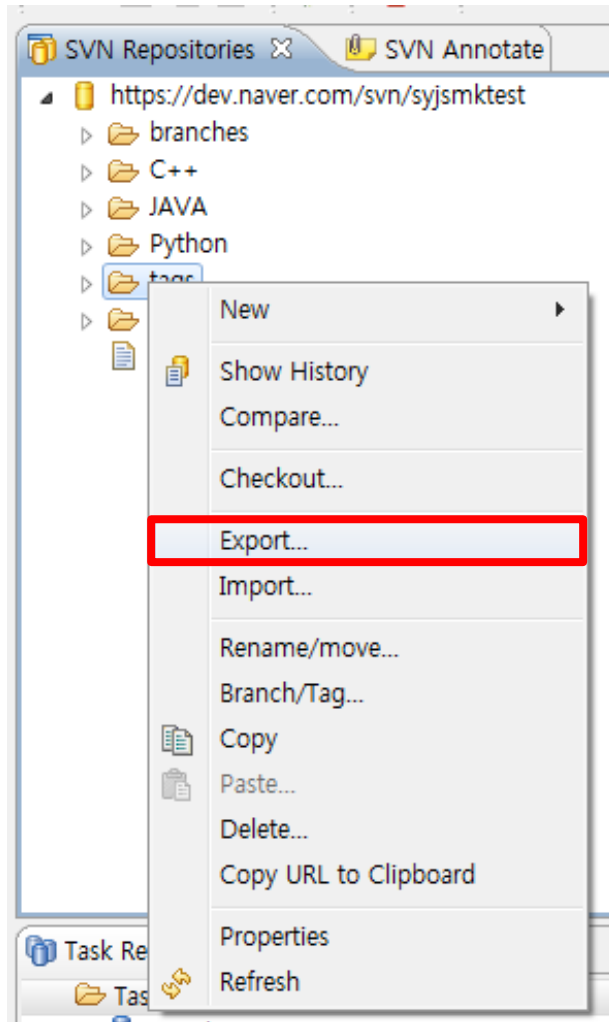
Subclipse

◆ Subclipse의 실행과정



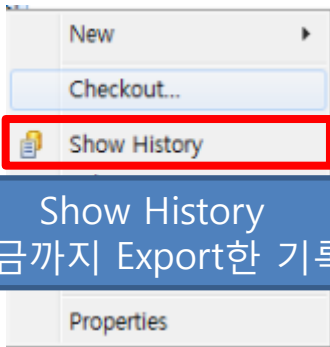
Subclipse

◆ Subclipse의 실행과정



Subclipse

◆ Subclipse의 실행과정



Show History
지금까지 Export한 기록

Revision	Date	Author	Comment
93	12. 1. 28 오후 1:24	syjsmk	ㅇㅇ
92	11. 12. 21 오후 11:24	syjsmk	파일 쓰기 이상함.
91	11. 12. 20 오후 8:37	syjsmk	디바이스별로 상태 하나씩만 가지게 수정함. factory에서도 그에 맞...
90	11. 12. 20 오후 3:33	syjsmk	setDeviceInfor에서 각 device add하게 추가. 각 list에 대한 get함수...
89	11. 12. 20 오후 12:10	syjsmk	device별 ID, wattage, location_x, location_y, 추가.
88	11. 12. 19 오후 3:49	syjsmk	모듈 4개 다 factory에서 생성. 각 Device쪽은 비어있지만. -_- 일단...
87	11. 12. 19 오후 3:02	syjsmk	커맨드 인터페이스 구현 클래스의 execute내부에서 인자를 받게 하...
86	11. 12. 19 오후 1:25	syjsmk	정규표현식을 사용해서 날씨 값 받아오는 부분 수정. temperature...
85	11. 12. 19 오전 11:53	syjsmk	일단 다른 부분도 factory에서 생성하게 함. 다만 다 안쪽이 비어있...
84	11. 12. 18 오후 2:32	syjsmk	EnergyControlModule과 DeviceFactory를 만들어보려고 했는데 커...
83	11. 12. 15 오후 8:18	syjsmk	이번에는 자바 소설방. 구글 날씨 xml파싱 부분
82	11. 12. 2 오후 12:52	syjsmk	Receiver에서 키로그를 받아오지 않고 종료시 동적할당을 하지 않았...
81	11. 11. 30 오후 2:16	syjsmk	일단은 그럭저럭 처리된듯. 하지만 상대방에 연결할 수 있는 횡수가...
80	11. 11. 30 오후 1:51	syjsmk	ip 중복으로 받아오는 부분 처리했음. 근데 이번에는 파일에서 읽어...
79	11. 11. 29 오후 2:19	syjsmk	클라이언트 크기 추가 안합니다. 일단 되는거나 제대로. listbox 손...
78	11. 11. 29 오전 11:40	syjsmk	사이즈 5로 만든거 놀리기 전
77	11. 11. 29 오전 1:54	syjsmk	모양은 좀 나는데 뭔가 좀 아쉽다.
76	11. 11. 29 오전 1:39	syjsmk	rcvdData에 출력은 했는데 어차피 잘리는거 이게 아닌거 같은 느낌...
75	11. 11. 29 오전 12:47	syjsmk	IP가 중복으로 드는 부분은 제대로 처리 못했지만 일단 IP콜릭시 로...
74	11. 11. 28 오후 7:50	syjsmk	mfc출력시 문자열 형변환만 처리 되면 될 것 같음.

Act...	Affected paths	Description
M	/JAVA/SED project/bin/Mai...	
M	/JAVA/SED project/bin/Mai...	
M	/JAVA/SED project/bin/test...	
M	/JAVA/SED project/src/Mai...	
M	/JAVA/SED project/src/Mai...	
M	/JAVA/SED project/src/test...	

Subclipse

◆ Subclipse의 실행과정

The screenshot shows the Subclipse History view for a repository at `https://dev.naver.com/svn/syjsmktest`. The History table lists revisions from 74 to 93. Revision 86 is selected. A context menu is open over revision 86, with the 'Compare...' option highlighted in red. A blue callout box contains the text 'Compare 다른 버전의 기록들과 비교 가능'.

Revision	Date	Author	Comment
93	12. 1. 28 오후 1:24	syjsmk	ㅇㅇ
92	11. 12. 21 오후 11:24	syjsmk	파일 쓰기 이상함.
91	11. 12. 20 오후 8:37	syjsmk	디바이스별로 상태 하나씩만 가지게 수정함. factory에서도 그에 맞...
90	11. 12. 20 오후 3:33	syjsmk	list에 대한 get함수...
89	11. 12. 20 오후 12:10	syjsmk	...
88	11. 12. 19 오후 3:49	syjsmk	어있지만. - - 일단...
87	11. 12. 19 오후 3:02	syjsmk	서 인자를 받게 하...
86	11. 12. 19 오후 1:25	syjsmk	설정. temperature...
85	11. 12. 19 오전 11:53	syjsmk	다 안쪽이 비어있...
84	11. 12. 18 오후 2:32	syjsmk	보려고 했는데 커...
83	11. 12. 15 오후 8:18	syjsmk	적합함을 하지 않았...
82	11. 12. 2 오후 12:52	syjsmk	할 수 있는 함수가...
81	11. 12. 2 오후 3:16	syjsmk	는 파일에서 읽어...
80	11. 12. 2 오후 3:16	syjsmk	대대로. listbox 손...
79	11. 12. 2 오후 3:16	syjsmk	
78	11. 12. 2 오후 3:16	syjsmk	
77	11. 12. 2 오후 3:16	syjsmk	
76	11. 12. 29 오전 1:39	syjsmk	아닌거 같은 느낌...
75	11. 11. 29 오전 12:47	syjsmk	일단 IP를릭시 로...
74	11. 11. 28 오후 7:50	syjsmk	표현식을 사용해서

Act...	Affected paths	Description
M	/JAVA/SED project/bin/Mai...	
M	/JAVA/SED project/bin/Mai...	
M	/JAVA/SED project/bin/test...	
M	/JAVA/SED project/src/Mai...	
M	/JAVA/SED project/src/Mai...	
M	/JAVA/SED project/src/test...	

Subclipse

Structure Compare

Main

- ExternalEnvironmentalValueParser.class
- WeatherData.class
- test

syjsmktest 86 과 syjsmktest 85

```
syjsmktest 86
2 < = >
openStream ()Ljava/io/InputStream; @ euc-kr
9 B C +(Ljava/io/InputStream;Ljava/lang/String;)V
D G H (Ljava/io/Reader;)V
J L K !javax/xml/parsers/DocumentBuilder M N par
forecast_date X Z Y [org/w3c/dom/Element ] \ get
getChildNodes ()Lorg/w3c/dom/NodeList; d j k l
getAttributes ()Lorg/w3c/dom/NamedNodeMap; n data
z { 8 [setWeatherSeason } condition
+8 [setWeatherCondition + temp_c
+8 [setWeatherTemperature + wind_condition
+8 [setWeatherWind + humidity
+8 [setWeatherHumidity ** [java/lang/System +
parsing error
** [java/io/PrintStream +8 println + [java/lang/

syjsmktest 85
+ - , (javax/xml/parsers/DocumentBuilderFactory;
+ 1 2 3 [newDocumentBuilder (Ljava/xml/par:
4 9 : (Ljava/lang/String;)V < [java/io/Inp
4 > ? 0
openStream ()Ljava/io/InputStream; B euc-kr
: D E +(Ljava/io/InputStream;Ljava/lang/Strin
F I J (Ljava/io/Reader;)V
L N M !javax/xml/parsers/DocumentBuilder O P
forecast_date Z \ [ org/w3c/dom/Element ] ^
getChildNodes ()Lorg/w3c/dom/NodeList; f l m r
getAttributes ()Lorg/w3c/dom/NamedNodeMap; p c
[ ] : [setWeatherSeason [ + [java/lang/
+9
+ *z [getWeatherSeason
** ** append -(Ljava/lang/String;)Ljava/lang/St
```

History Console

in https://dev.naver.com/svn/syjsmktest

Revision	Date	Author	Comment
93	12. 1. 28 오후 1:24	syjsmk	o o
92	11. 12. 21 오후 11:24	syjsmk	파일 쓰기 이상함.
91	11. 12. 20 오후 8:37	syjsmk	디바이스별로 상태 하나씩만 가지게 수정함, factory에서도 그에 맞

Act... Affected paths Description

정규표현식을 사용해서 날씨 값 받아오는 부분 수정.
temperature는 int타입 등으로 받아오게 수정했음.

https://sdlc4e.sun...47E9C/artifacts.jar

CM Tools

- Configuration Management
- CVS(Concurrent Version System)
- SVN(SubVersion)
- **Github**

Github

◆ Github

- 리눅스 커널의 개발자로 유명한 리누스 토발즈가 개발한 형상관리 툴
- “분산형 형상관리” → 여러 개의 로컬 저장소를 가진다.

The screenshot shows the GitHub profile page for Linus Torvalds. At the top, there is a navigation bar with the GitHub logo, a search bar, and links for Explore, Gist, Blog, and Help. The user's name 'torvalds (Linus Torvalds)' is displayed with a profile picture and buttons for 'Message' and 'Follow'. Below this, the user's company 'Linux Foundation', location 'Portland, OR', and member since date 'Sep 03, 2011' are listed. Statistics show 2 public repositories and 5,389 followers. A link indicates 'Following 0 coders and watching 2 repositories'. The 'Public Repositories (2)' section lists 'linux' (Linux kernel source tree, last updated 14 hours ago) and 'subsurface' (Rough divlog in C and Gtk). The 'Public Activity' section shows recent pushes to the 'linux' and 'subsurface' repositories.

github Search... Explore Gist Blog Help syjsmk

torvalds (Linus Torvalds) Message Follow

Company Linux Foundation
Location Portland, OR
Member Since Sep 03, 2011

2 public repos 5,389 followers

Following 0 coders and watching 2 repositories [view all](#) →

Public Repositories (2)

Find a repository...

All Repositories Sources Forks Mirrors

linux C 4,396 672
Linux kernel source tree
Last updated 14 hours ago
52 week participation

subsurface C 264 44
Rough divlog in C and Gtk

Public Activity

torvalds pushed to master at torvalds/linux 14 hours ago

01627d9 Merge branch 'drm-fixes-intel' of git://people.freedesktop.org/~airli...

e1a7eb0 Merge branch 'drm-fixes' of git://people.freedesktop.org/~airlied/linux

464662b Merge branch 'next' of git://git.monstr.eu/linux-2.6-microblaze

[7 more commits](#) »

torvalds pushed to master at torvalds/subsurface a day ago

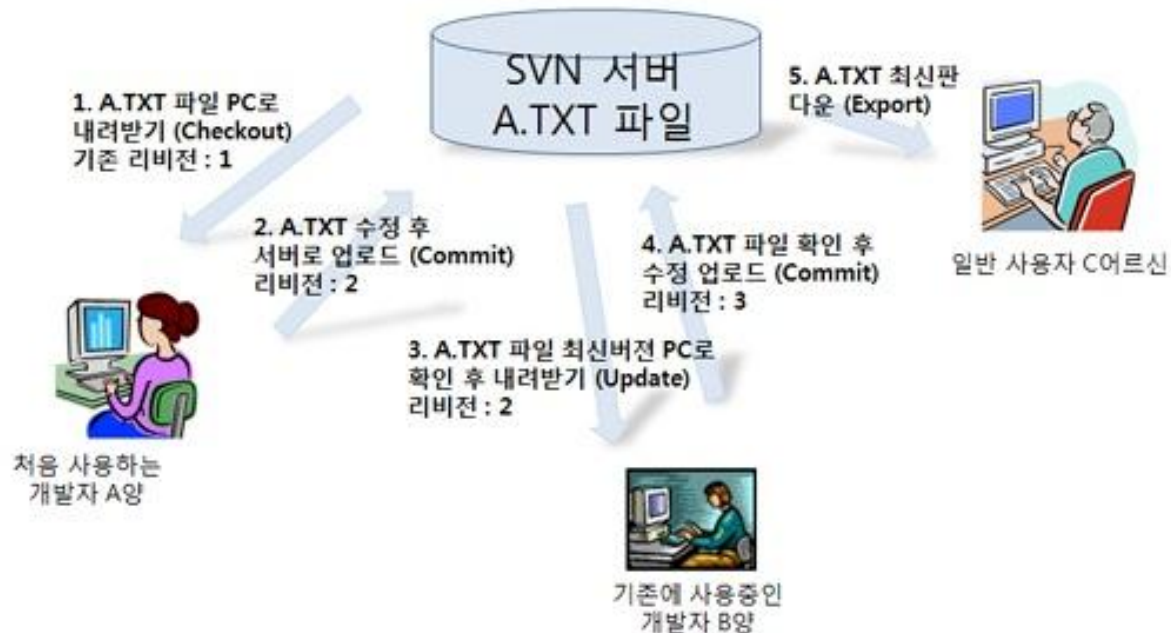
9470f71 ReNUMBER dives when deleting a dive

Github

◆ 일반 SVN과 Github의 차이

• 일반 SVN

COMMIT 및 UPDATE시 중앙서버로 파일이 업로드
→ Commit 전까지의 변경사항이 사라질 수 있다.

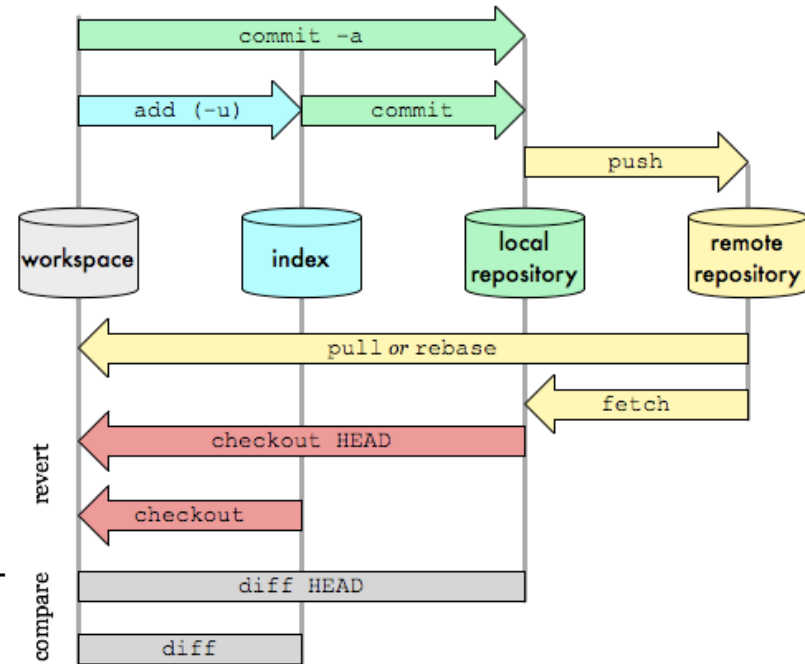


Github

◆ 일반 SVN과 Github의 차이

Github에서는 Push개념 도입.

- **COMMIT** : 파일 및 디렉토리에 대한 변경 사항을 **Git의 인덱스(로컬)**에 기록
- **PUSH** : 로컬 인덱스 및 오브젝트 변경 정보를 사용하여 **원격저장소를 업데이트**한다.
- **Pull** : Fetch From a Remote Repo and Try to merge into the current branch
- **Fetch** : Download new branches and data from a remote repository

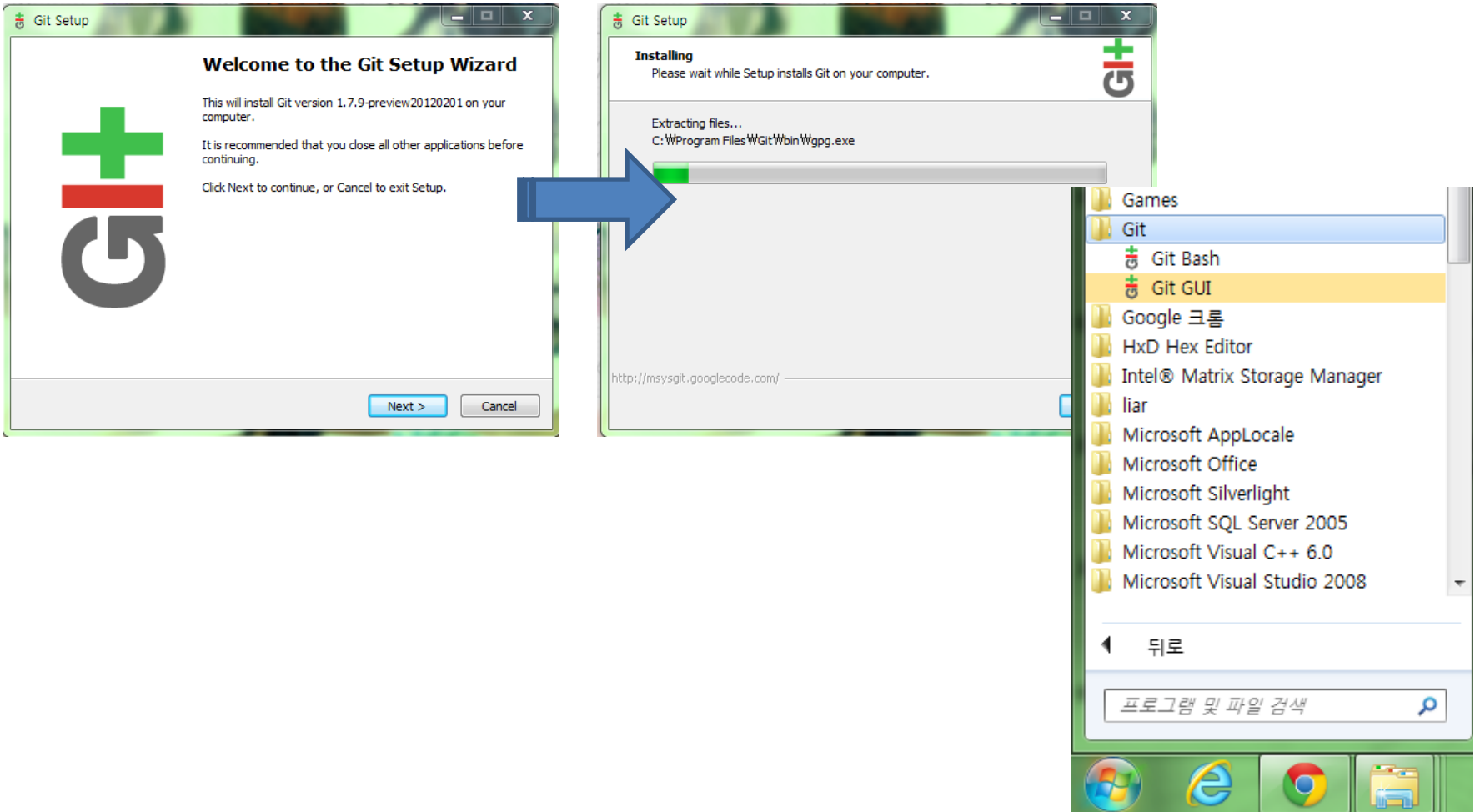


Github

- 설치과정
- 환경설정
- Repository 생성
- Push
- Branch
- Merge
- Clone

Github

◆ 설치과정



Github

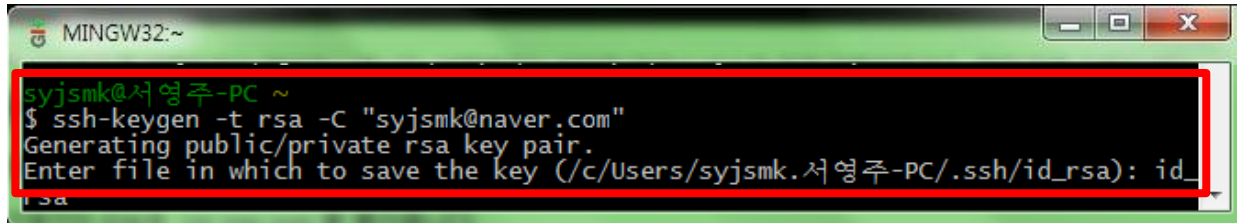
◆ 환경설정 - *Git Bash*

```
MINGW32:~  
Welcome to Git (version 1.7.9-preview20120201)  
Run 'git help  
Run 'git help  
syjsmk@서영주-  
$  
syjsmk@서영주-PC  
$ cd ~/.ssh  
sh.exe": cd: /c/Users/syjsmk.서영주-PC/.ssh: No such file or directory  
syjsmk@서영주-PC ~  
$  
_
```

SSH(Secure SHell) : 보안 로그인 셸
전통적 ftp, pop, telnet 같은 서비스 들은 보안에 취약
Ssh를 통한 모든 데이터는 암호화, 트래픽은 압축되어
더 빠른 전송 효율 얻을 수 있음.

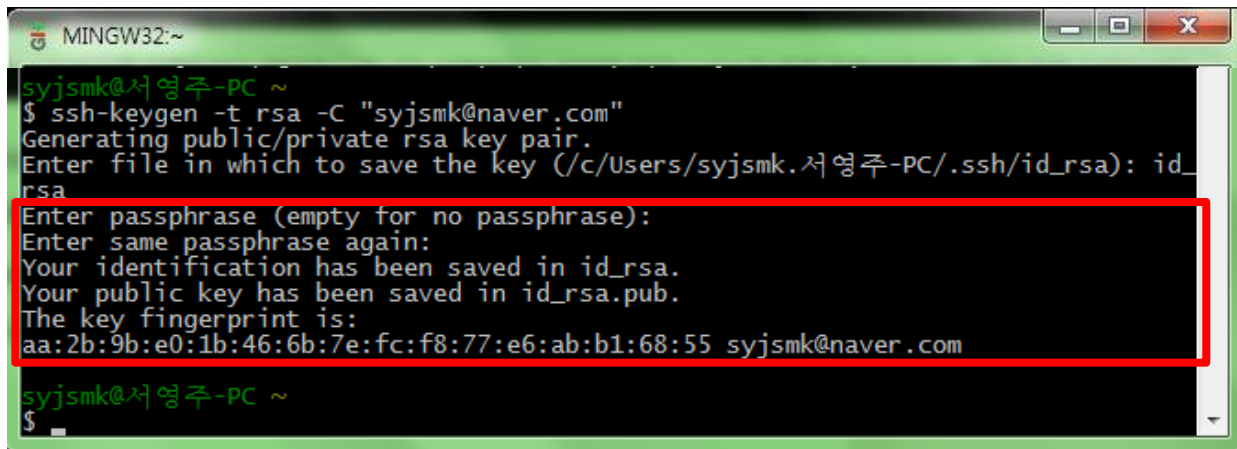
Github

◆ 환경설정 - *Git Bash*



```
MINGW32:~
syjsmk@서영주-PC ~
$ ssh-keygen -t rsa -C "syjsmk@naver.com"
Generating public/private rsa key pair.
Enter file in which to save the key (/c/Users/syjsmk.서영주-PC/.ssh/id_rsa): id_
rsa
```

→ 입력한 메일주소를 통해서 공개키 파일이 생성

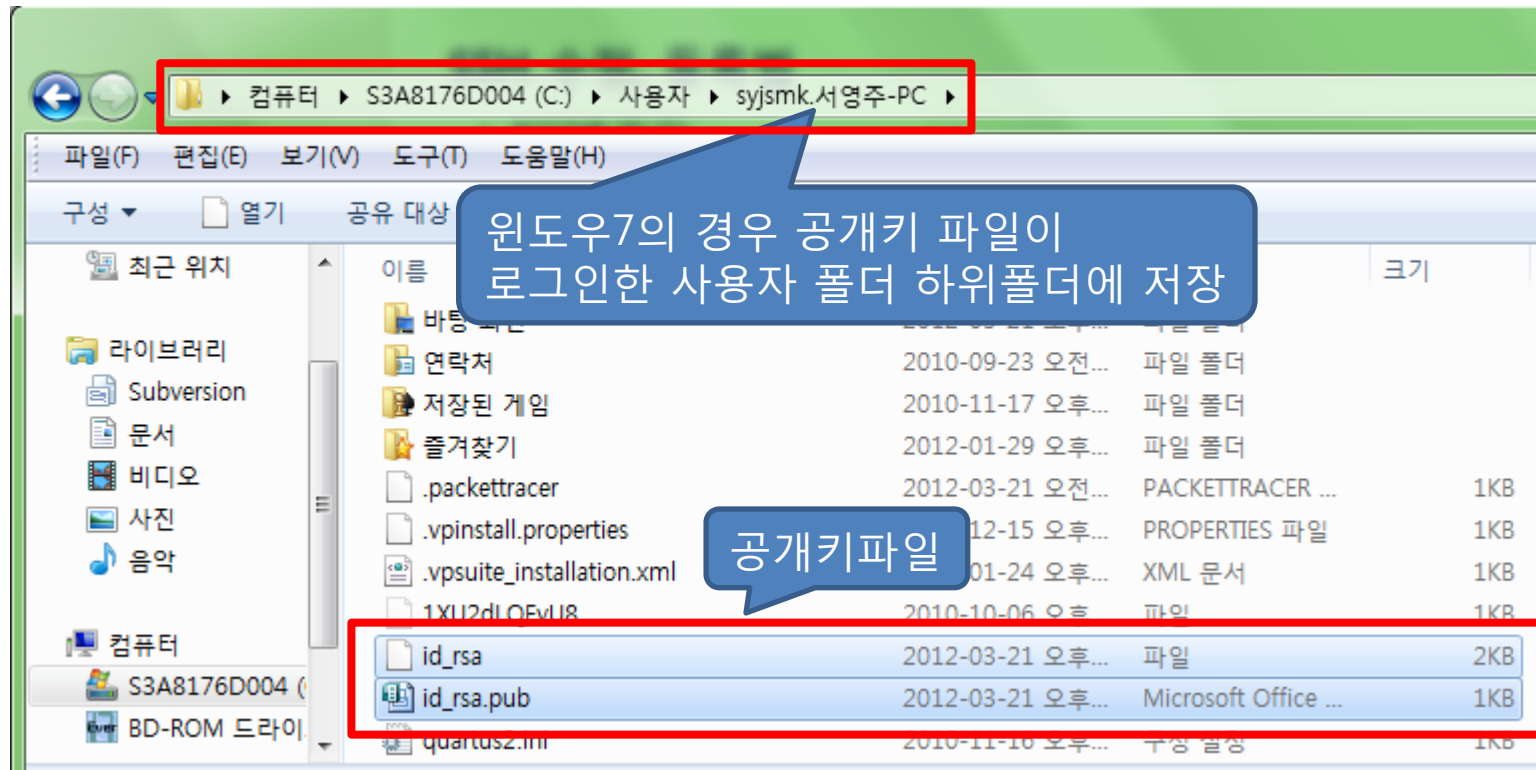


```
MINGW32:~
syjsmk@서영주-PC ~
$ ssh-keygen -t rsa -C "syjsmk@naver.com"
Generating public/private rsa key pair.
Enter file in which to save the key (/c/Users/syjsmk.서영주-PC/.ssh/id_rsa): id_
rsa
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in id_rsa.
Your public key has been saved in id_rsa.pub.
The key fingerprint is:
aa:2b:9b:e0:1b:46:6b:7e:fc:f8:77:e6:ab:b1:68:55 syjsmk@naver.com
syjsmk@서영주-PC ~
$
```

→ 공개키에 대한 패스워드를 입력하면, 공개키가 파일로 저장됐음을 알림

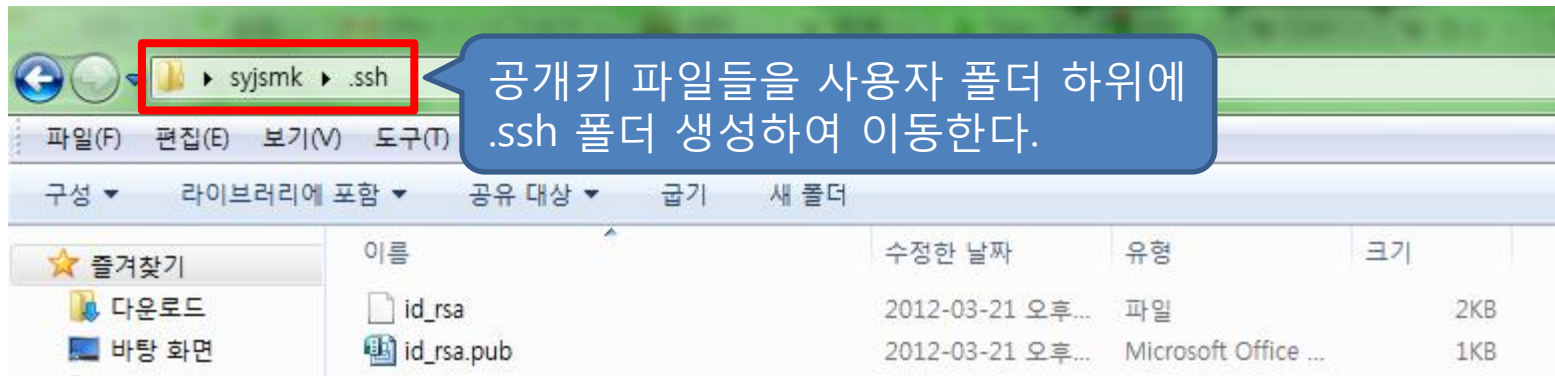
Github

◆ 환경설정 - Git Bash



Github

◆ 환경설정 - *Git Bash*



Github

◆ 환경설정 - 계정 생성 및 공개키 등록

The screenshot shows the GitHub homepage. The 'github' logo is highlighted with a red box. A blue callout bubble contains the text: www.github.com/으로 접속하여 계정을 생성. The navigation bar includes 'Explore Gist Blog Help', the user 'syjsmk', and utility icons. Below the navigation bar are tabs for 'News Feed', 'Pull Requests', and 'Issues'.

The 'GitHub Bootcamp' section provides a guided tour for new users. It consists of four numbered steps:

- Set Up Git**: A quick guide to help you get started with Git.
- Create A Repository**: Create the place where your commits will be stored.
- Fork a Repository**: Copy a repo to create a new, unique project from its contents.
- Be social**: Follow a friend. Watch a project.

beonit commented on (deleted) 9 months ago
The commit has since been removed.

GitHub for Mac 1.2: Snow Octocat
Today we are announcing the next version of GitHub for Mac. Snow Octocat.

Github

◆ 환경설정 - 계정 생성 및 공개키 등록

github Explore Gist B

계정에 로그인하여 Account Setting을 한다.

syjsmk Account Settings

syjsmk

- Profile
- Account Settings
- Emails
- Notification Center
- Billing
- Payment History
- SSH Keys
- Security History
- Applications
- Repositories
- Organizations

PRIVATE REPOS 0 OF 0

COLLABORATORS 0 OF 0

Public Profile

Name

Email (will be public)

Website/Blog

Company

Location

[Change your avatar at Gravatar.com.](#) We are using syjsmk@naver.com

Github

◆ 환경설정 - 계정 생성 및 공개키 등록

- Profile
- Account Settings
- Emails
- Notification Center
- Billing
- Payment History
- SSH Keys**
- Security History
- Applications
- Repositories
- Organizations

PRIVATE REPOS 0 OF 0

COLLABORATORS 0 OF 0

SSH Keys Add SSH key

devils gittest (91:5c:61:b1:ba:27:7b:73:2e:45:23:ed:f2:6e:e8:1a) Delete

Add an SSH Key

Title
Github setting test

Key

```
ssh-rsa  
AAAAB3NzaC1yc2EAAAABIwAAAQEAy5+TftcLyNN2X35k/oNWXflV+Dahv+RccUdMZv/C7DoUJP3cs cxB4BQYEzVEd  
kdLZ2W/uzg/T1Xro73bMAIv1gfd8gDCJKaySB8x6+zkbCT4GuEDiNeeCRI dtBnyOzl+aqQkflDKSIPT4LFgehj6HpP  
ogtkK3RcAFvQIMNZh01p7hqUU8LF9Q5aiDJ9pPii/oWNq5pAf6J+KmUAJflkGiIPFuW9/3ADBKIWSUhPgjCeSzt+v1  
MdGXBDfBpvp/6UmjgkGXkdp06rT8tiUdART4eob6TFow2V6PzfPBM+Eo6KBWD9jqSwAAuttoUuGxFyeDhKz5N8bl  
4g87bcfyVUw== syjsmk@naver.com
```

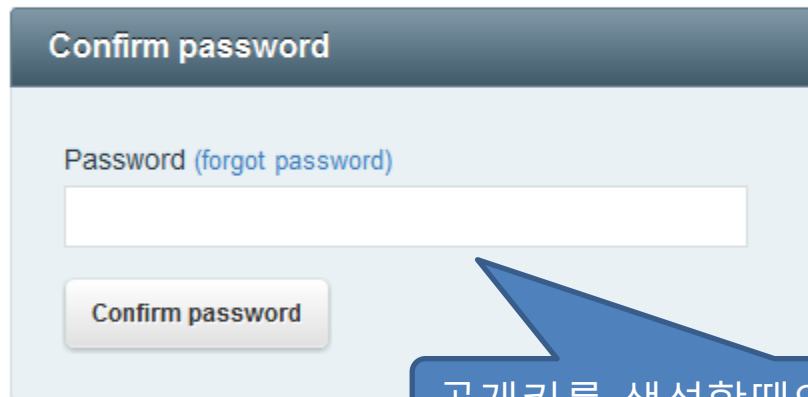
Add key

아까 생성했던 .ssh폴더의 id_rsa 파일의 내용(txt)을 Key에 집어넣는다.

Github

◆ 환경설정 - 계정 생성 및 공개키 등록

Please verify your password in order to continue.



Confirm password

Password (forgot password)

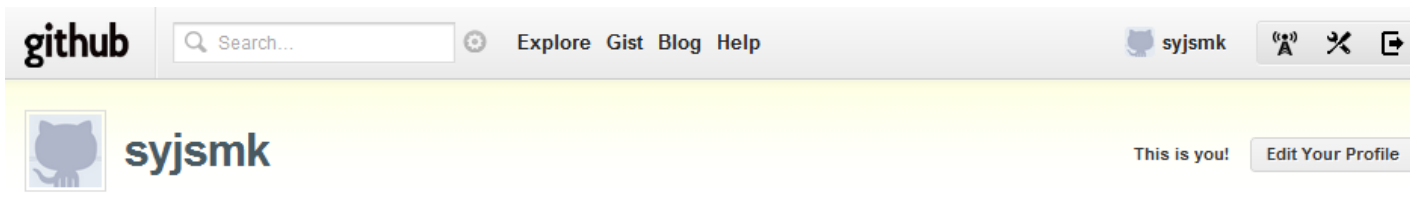
Confirm password

공개키를 생성할때의 패스워드를 입력한다.

Github

◆ 환경설정 - 계정 생성 및 공개키 등록

→ 환경설정이 다 완료되었고, 계정화면이 뜬다.



등록해놓은 프로젝트들

최근 프로젝트의 활동내역

Member Since Jun 19, 2011

1 public repo 0 private repos 0 followers

Following 0 coders and watching 1 repos

Repositories (1) New repository

Find a repository...

All Repositories Public Private Sources Forks Mirrors

devils2011GitSeminar C++ 1 0

Forked from enochbible/devils2011GitSeminar

devils2011GitSeminar
Last updated 9 months ago

all commits commits by owner 52 week participation

Public Activity

syjsmk opened pull request 8 on (deleted) 9 months ago

syjsmk commit
1 commit with 26 additions and 3 deletions

syjsmk pushed to master at syjsmk/devils2011GitSeminar 9 months ago

ac71885 syjsmk commit

syjsmk forked (deleted) 9 months ago

Forked repository is at syjsmk/

Github

◆ Repository 생성

github [Explore](#) [Gist](#) [Blog](#) [Help](#)

Create a New Repository

Project Name

Description (optional)

Homepage URL (optional)

Who has access to this repository? (You can change this later)

[Anyone](#) (learn more about **public repos**)

[Upgrade your plan to create more private repositories!](#)

프로젝트 이름과 프로젝트에 대한 설명을 쓴다.

Github

◆ Repository 생성

Code	Network	Pull Requests 0	Issues 0	Wiki 0	Stats & Graphs
------	---------	-----------------	----------	--------	----------------

생성된 Repository에 대한 로컬 저장소 생성 명령

Global setup:

```
Set up git
git config --global user.name "Your Name"
git config --global user.email syjsmk@naver.com
```

Next steps:

```
mkdir syjsmktest
cd syjsmktest
git init
touch README
git add README
git commit -m 'first commit'
git remote add origin git@github.com:syjsmk/syjsmktest.git
git push -u origin master
```

Existing Git Repo?

```
cd existing_git_repo
git remote add origin git@github.com:syjsmk/syjsmktest.git
git push -u origin master
```

Importing a Subversion Repo?

[Click here](#)

When you're done:

[Continue](#)

Github

◆ Repository 생성

Code	Network	Pull Requests 0	Issues 0	Wiki 0	Stats & Graphs
------	---------	-----------------	----------	--------	----------------

생성된 Repository에 대한 로컬 저장소 생성 명령

```
Global setup:  
Set up git  
git config --global user.name "Your Name"
```

Global setup:

```
Next steps:  
Set up git
```

```
git config --global user.name "Your Name"  
git config --global user.email syjsmk@naver.com
```

Next steps:

```
mkdir syjsmktest  
cd syjsmktest
```

```
git init  
touch README  
git add README  
git commit -m 'first commit'  
git remote add origin git@github.com:syjsmk/syjsmktest.git  
git push -u origin master
```

Git Init 명령 전까지는 bash를 통해서만 가능
Git init 명령부터 gui를 통해서도 가능하다.

Github

◆ Repository 생성

Code Network Pull Request

Global setup:

Set up git

```
git config --global user.name "Your Name"
git config --global user.email syjsmk@naver.com
```

Next steps:

```
mkdir syjsmktest
cd syjsmktest
git init
touch README
git add README
git commit -m 'first commit'
git remote add origin git@github.com:syjsmk
git push -u origin master
```

Existing Git Repo?

```
cd existing_git_repo
git remote add origin git@github.com:syjsmk
git push -u origin master
```

Importing a Subversion Repo?

[Click here](#)

When you're done:

[Continue](#)

※ bash 명령어 입력을 이용시

```
MINGW32:~
syjsmk@서영주-PC ~
$ git config --global user.name syjsmk
syjsmk@서영주-PC ~
$ git config --global user.email syjsmk@naver.com
syjsmk@서영주-PC ~/GITHUBPROJECT
$ mkdir syjsmktest
syjsmk@서영주-PC ~/GithubProject
$ cd syjsmktest
syjsmk@서영주-PC ~/GithubProject/syjsmktest
$ git init
Initialized empty Git repository in c:/Users/syjsmk.000000-PC/GithubProject/syjsmktest/.git/
syjsmk@서영주-PC ~/GithubProject/syjsmktest (master)
$ touch README
syjsmk@서영주-PC ~/GithubProject/syjsmktest (master)
$ git add README
syjsmk@서영주-PC ~/GithubProject/syjsmktest (master)
$ git commit -m 'first commit'
[master (root-commit) 5df91e1] first commit
0 files changed, 0 insertions(+), 0 deletions(-)
create mode 100644 README
syjsmk@서영주-PC ~/GithubProject/syjsmktest (master)
$ git remote add origin git@github.com:syjsmk/syjsmktest.git
syjsmk@서영주-PC ~/GithubProject/syjsmktest (master)
$ git push -u origin master
Enter passphrase for key '/c:/Users/syjsmk.서영주-PC/.ssh/id_rsa':
Counting objects: 3, done.
Writing objects: 100% (3/3), 202 bytes, done.
Total 3 (delta 0), reused 0 (delta 0)
To git@github.com:syjsmk/syjsmktest.git
 * [new branch]      master -> master
Branch master set up to track remote branch master from origin.
```

Github

◆ Repository 생성

The image shows a terminal window with a context menu overlaid on it. The terminal text includes instructions for global setup, next steps, existing Git repos, importing a Subversion repo, and what to do when done. The context menu lists various actions, with 'Git Init Here' highlighted in a red box. A blue callout box above the menu says '※ init부터 gui 이용시'.

```
Global setup:
Set up git
git config --global user.name "Your name"
git config --global user.email syjs@github.com

Next steps:
mkdir syjsmktest
cd syjsmktest
git init
touch README
git add README
git commit -m 'first commit'
git remote add origin git@github.com:username/repo.git
git push -u origin master

Existing Git Repo?
cd existing_git_repo
git remote add origin git@github.com:username/repo.git
git push -u origin master

Importing a Subversion Repo?
Click here

When you're done:
Continue
```

※ init부터 gui 이용시

- 보기(V)
- 정렬 기준(O)
- 룩는 방법(P)
- 새로 고침(E)
- 현재 폴더 사용자 지정(F)...
- 붙여넣기(A)
- 바로 가기 붙여넣기(S)
- 이동 취소(U) Ctrl+Z
- Git Init Here**
- Git Gui
- Git Bash
- 공유 대상(H)
- SVN Checkout...
- TortoiseSVN
- 새로 만들기(W)
- 속성(B)

Github

◆ Repository 생성

syjsmk This is you! [Edit Your Profile](#)

Member Since Jun 19, 2011

2 public repos 0 private repos 0 followers

Following 0 coders and watching 2 repositories [view all](#) →

Repositories (2)

Find a repository...

All Repositories [Public](#) [Private](#) [Sources](#) [Forks](#) [Mirrors](#)

syjsmktest 👁 1 🔗 1

test
Last updated 2 minutes ago

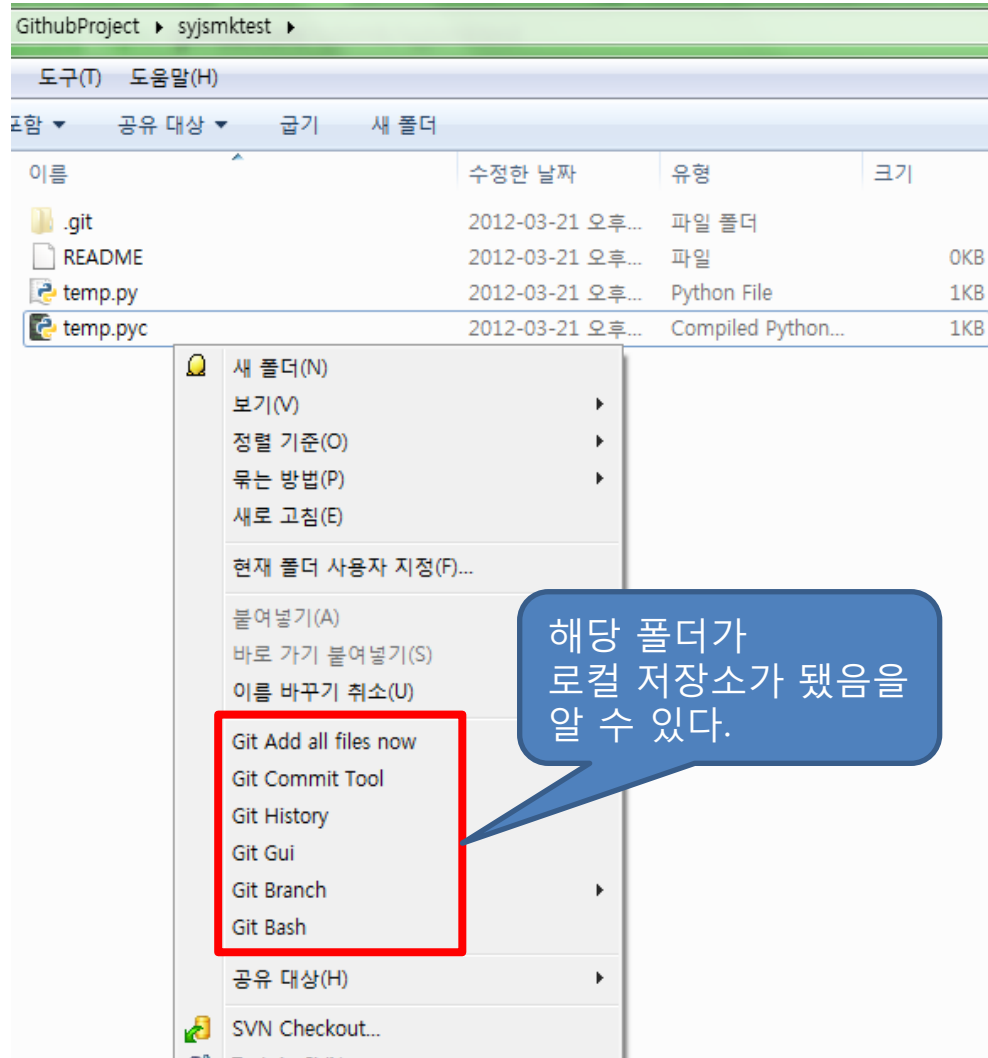
all commits ■ commits by owner 52 week participation

Public Activity

- syjsmk** created branch master at syjsmk/syjsmktest 2 minutes ago
New branch is at /syjsmk/syjsmktest/tree/master
[Compare master branch with master](#) »
- syjsmk** created repository syjsmktest 8 minutes ago
test
- syjsmk** opened pull request 8 on (deleted) 9 months ago
syjsmk commit
1 commit with 26 additions and 3 deletions
- syjsmk** pushed to master at syjsmk/devils2011GitSeminar 9 months ago
ac71885 syjsmk commit

Github

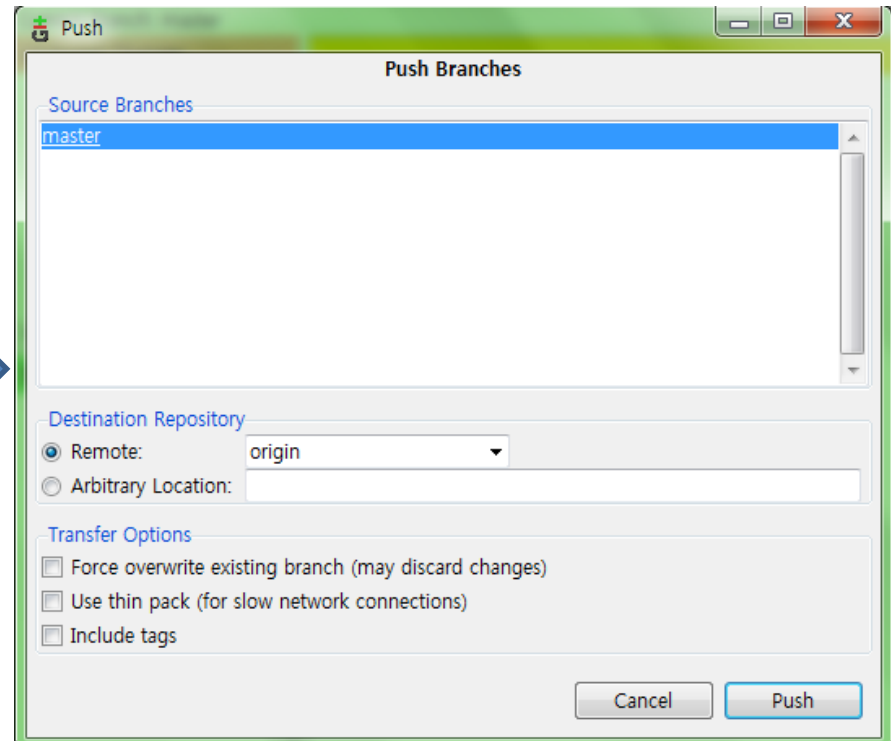
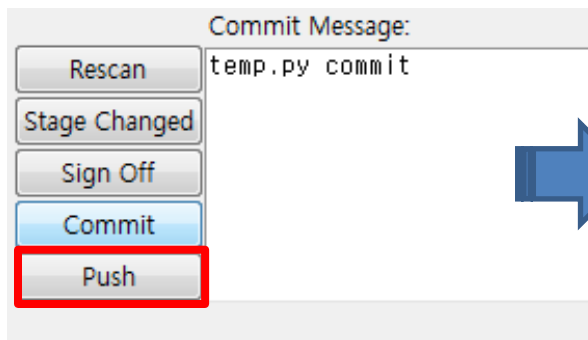
◆ Repository 생성



Github

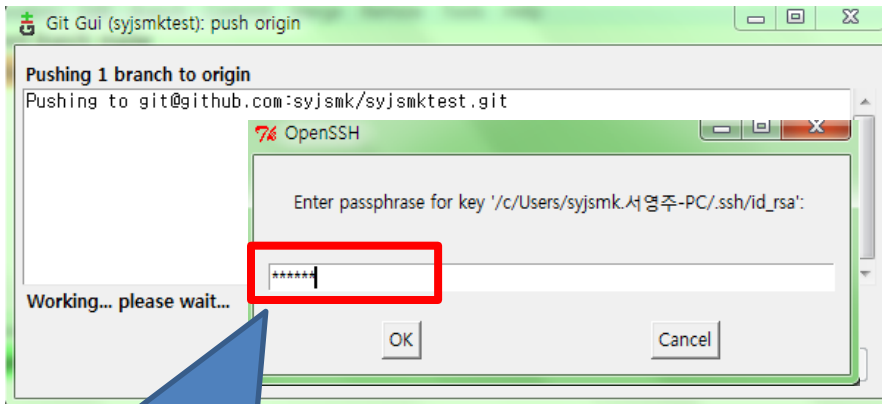
◆ *Push*

- **PUSH** : 로컬 인덱스 및 오브젝트 변경 정보를 사용하여 원격저장소를 업데이트
- **COMMIT** : 파일 및 디렉토리에 대한 변경 사항을 Git의 인덱스에 기록



Github

◆ Push

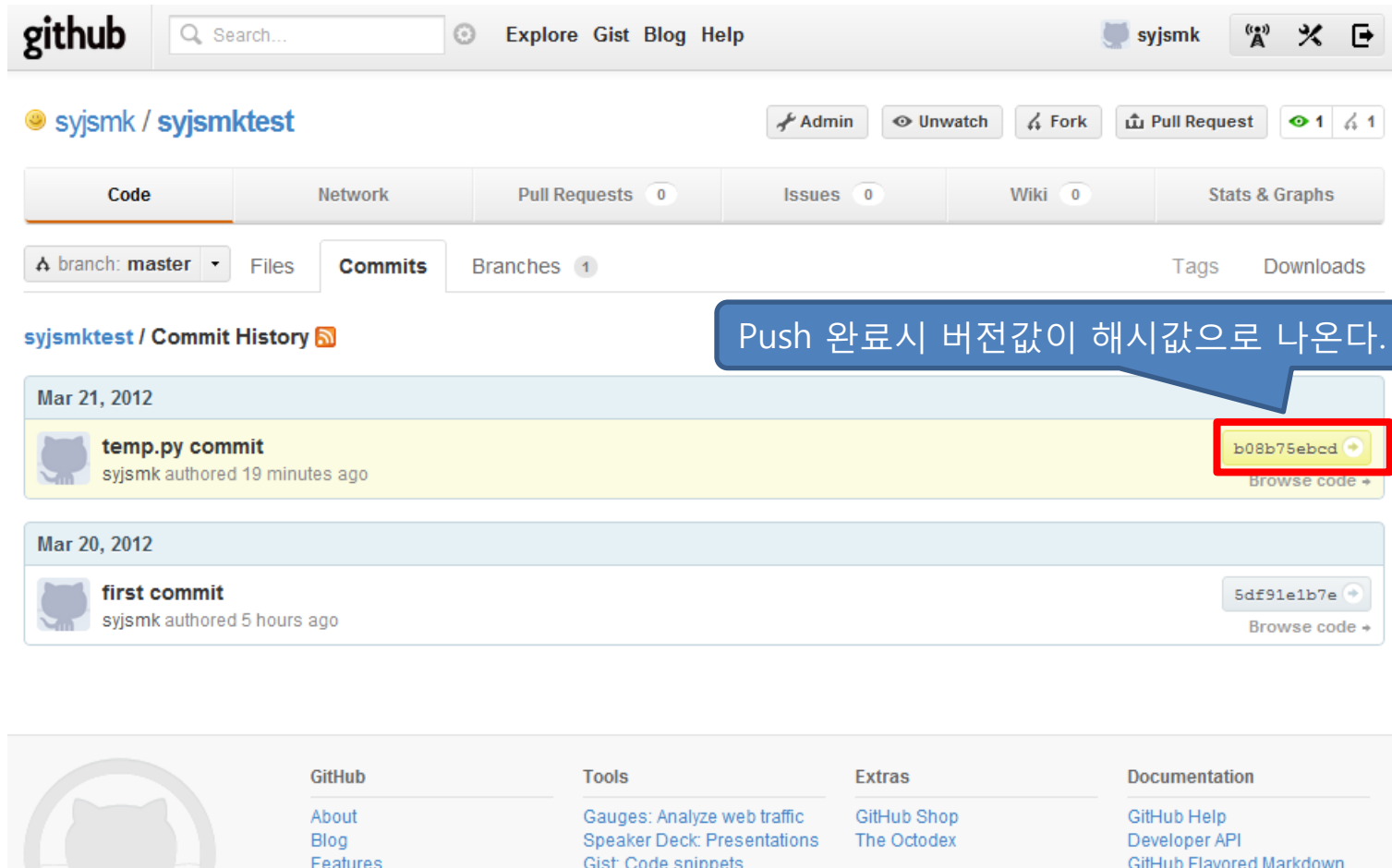


Ssh 파일 생성시의 패스워드 입력



GitHub

◆ Push



github [Explore](#) [Gist](#) [Blog](#) [Help](#) syjsmk

syjsmk / syjsmktest [Admin](#) [Unwatch](#) [Fork](#) [Pull Request](#) [1](#) [1](#)

[Code](#) [Network](#) [Pull Requests](#) 0 [Issues](#) 0 [Wiki](#) 0 [Stats & Graphs](#)

branch: master [Files](#) [Commits](#) [Branches](#) 1 [Tags](#) [Downloads](#)

syjsmktest / Commit History

Mar 21, 2012

temp.py commit syjsmk authored 19 minutes ago **b08b75ebcd** [Browse code](#)

Mar 20, 2012

first commit syjsmk authored 5 hours ago **5df91e1b7e** [Browse code](#)

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[Features](#) [Gist Code snippets](#) [GitHub Flavored Markdown](#)

Github

◆ *Push*

The screenshot shows a GitHub commit page for a repository. At the top, there are navigation tabs: Code, Network, Pull Requests (0), Issues (0), Wiki (0), and Stats & Graphs. Below these are sub-tabs: Files, Commits, Branches (1), Tags, and Downloads. The main content area is titled 'temp.py commit' and includes a 'Browse code' button. It shows the commit was authored by 'syjsmk' 20 minutes ago, with 1 parent commit (5df91e1b7e) and the commit hash b08b75ebcdc3eadc0026afc41ffe49ec263ea066. A summary indicates 'Showing 2 changed files with 5 additions and 0 deletions.' Two files are listed: 'temp.py' (5 additions) and 'temp.pyc' (BIN). The 'temp.py' file content is shown with a diff view, highlighting the added code. A blue callout bubble points to the file list with the text '추가된 파일' (Added files). Another blue callout bubble points to the code diff with the text 'Push 한 파일의 수정된 내용' (Modified content of the pushed file). The 'temp.pyc' file is noted as a binary file not shown.

Code Network Pull Requests 0 Issues 0 Wiki 0 Stats & Graphs

Files **Commits** Branches 1 Tags Downloads

temp.py commit [Browse code](#)

syjsmk authored 20 minutes ago 1 parent [5df91e1b7e](#) commit [b08b75ebcdc3eadc0026afc41ffe49ec263ea066](#)

Showing 2 changed files with 5 additions and 0 deletions.

- + temp.py 5 ■■■■■ [↔](#)
- + temp.pyc BIN ■■■■■ [↔](#)

temp.py [View file @ b08b75e](#)

```
... .. @@ -0,0 +1,5 @@
1 +class GitTest:
2 +   def tempTest(self):
3 +       print "GitTest"
4 +
5 +
```

temp.pyc [View file @ b08b75e](#)

Binary file not shown

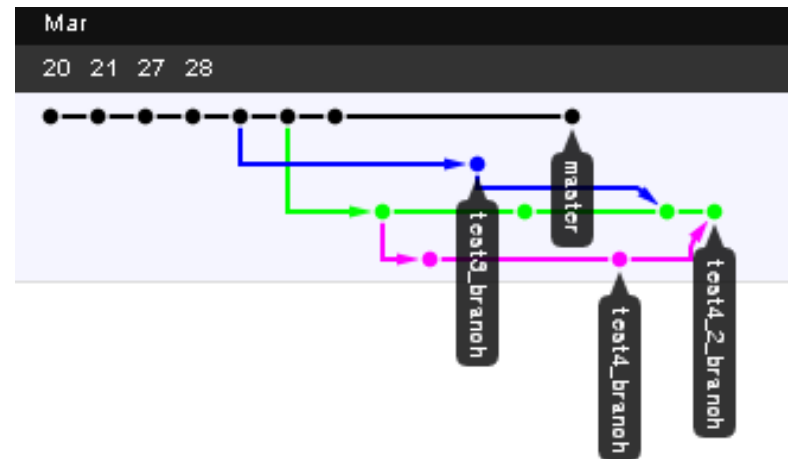
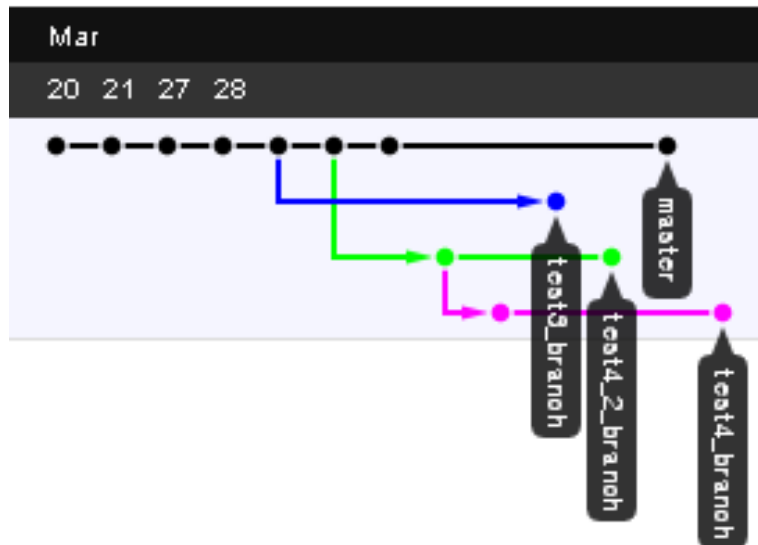
0 notes on commit [b08b75e](#)

Show line notes below

Github

◆ Branch & Merge

- Github는 프로젝트 작업 내용이 시간 순으로만 일렬로 배열되는게 아니라, 개발 과정에 따라 동시에 병렬로 이루어질 수 있다.
- 프로젝트의 병렬로 진행하여
여러 부분으로 나누거나 → Branch
하나로 합칠 수 있다. → Merge



Github

◆ Branch의 생성

Git History를 보면 현재 Branch의 상태를 볼 수 있다.

- Git Add all files
- Git Commit Tool
- Git History**
- Git Gui
- Git Branch
- Git Bash

The screenshot shows the Git GUI interface for a repository named 'syjsmktest'. The commit history is displayed as a vertical list of nodes connected by lines. The nodes are: 'first commit', 'temp.py commit', 'remotes/origin/master' (with a link to 'remotes/syjsmk/master'), 'commit test1', 'test3_branch' (with commit 'test3'), 'commit test4', 'test4_branch' (with commit 'test4_3'), 'test4_2_branch' (with commit 'test4_2'), and 'master' (with commit 'test5'). The branch names 'test4_branch', 'test4_2_branch', 'test3_branch', 'remotes/origin/master', and 'remotes/syjsmk/master' are highlighted in green. A red oval encircles the entire commit history area. A blue callout bubble points to the green highlights with the text: '녹색 태그가 브랜치, 현재 4개로 나뉜 상태'.

SHA1 ID: df93938ed05c2805c0

Find next prev

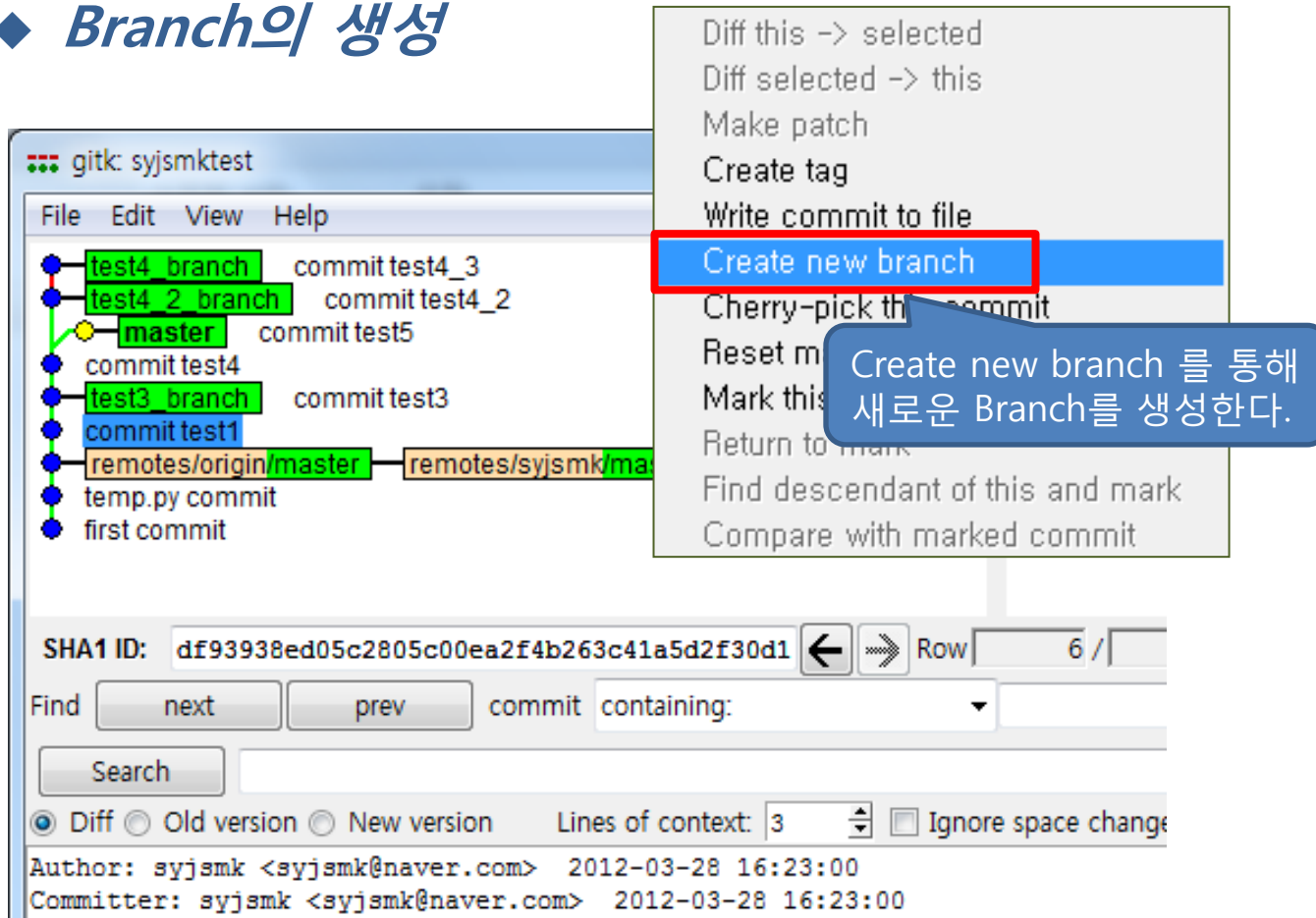
Search

Diff Old version New version Lines of context: 3 Ignore space change

Author: syjsmk <syjsmk@naver.com> 2012-03-28 16:23:00
Committer: syjsmk <syjsmk@naver.com> 2012-03-28 16:23:00

Github

◆ Branch의 생성



The image shows a screenshot of the Git GUI interface. On the left, a commit history tree is visible with branches like 'test4 branch', 'test4_2 branch', 'master', 'test3 branch', and 'remotes/origin/master'. A context menu is open over the 'test4 branch' entry, with the option 'Create new branch' highlighted in blue. A blue callout bubble points to this option with the text: 'Create new branch 를 통해 새로운 Branch를 생성한다.' (Create a new branch through this to create a new branch).

gitk: syjsmktest

File Edit View Help

- test4 branch commit test4_3
- test4_2 branch commit test4_2
- master commit test5
- commit test4
- test3 branch commit test3
- commit test1
- remotes/origin/master remotes/syjsmk/ma
- temp.py commit
- first commit

SHA1 ID: df93938ed05c2805c00ea2f4b263c41a5d2f30d1

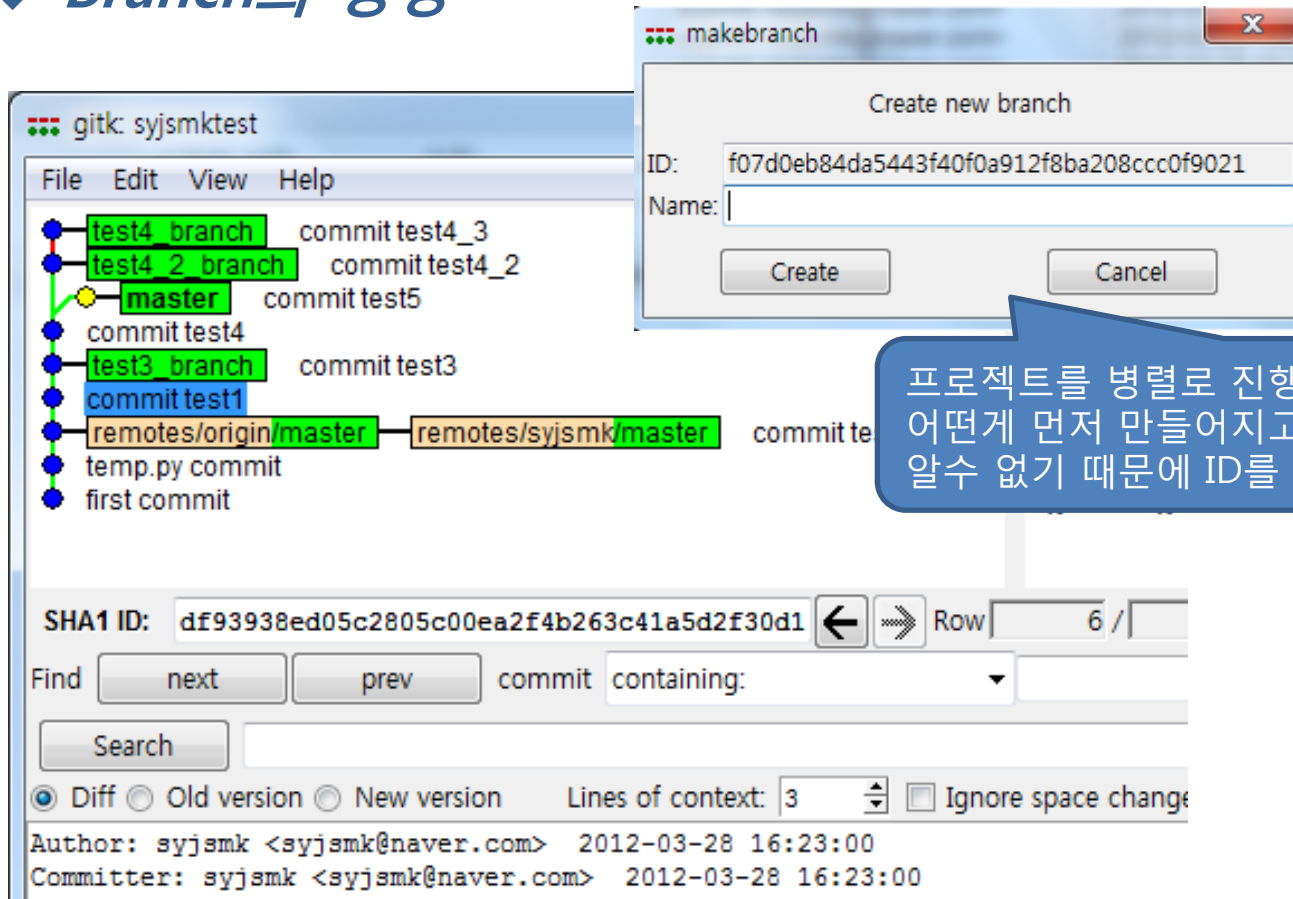
Find next prev commit containing: Search

Diff Old version New version Lines of context: 3 Ignore space change

Author: syjsmk <syjsmk@naver.com> 2012-03-28 16:23:00
Committer: syjsmk <syjsmk@naver.com> 2012-03-28 16:23:00

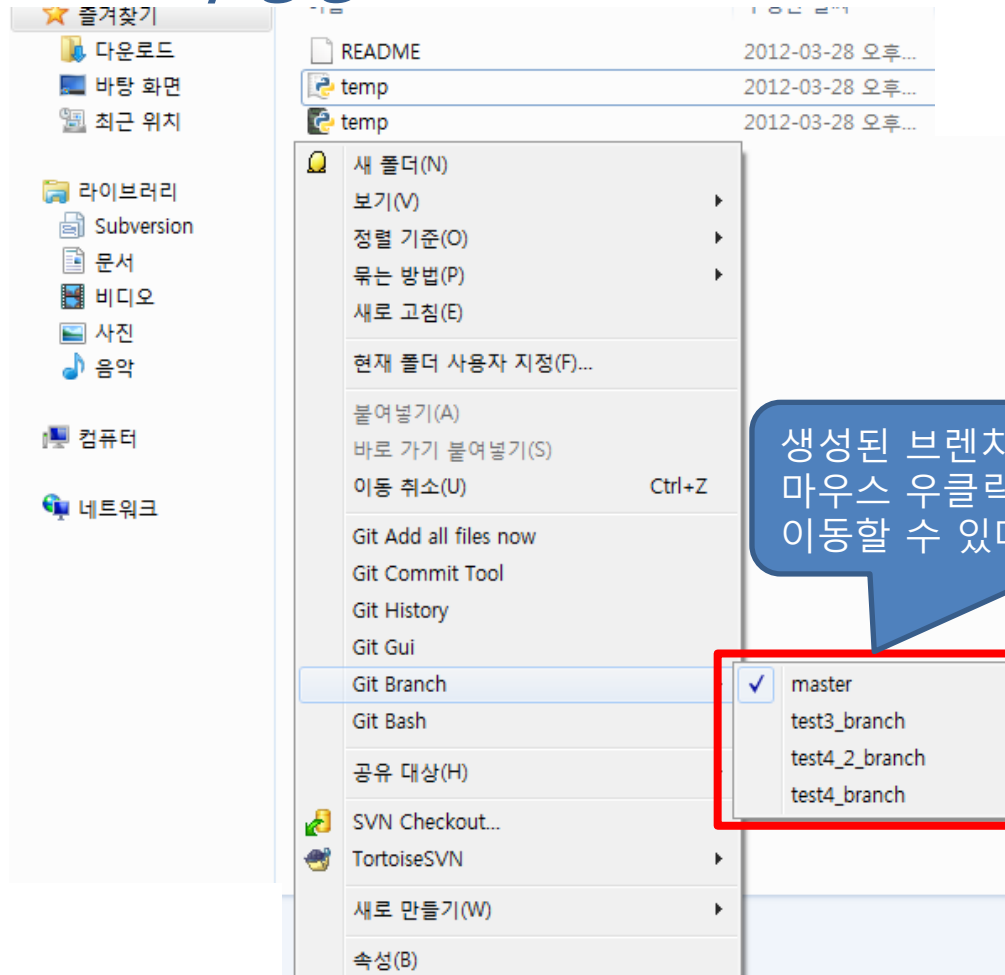
Github

◆ Branch의 생성

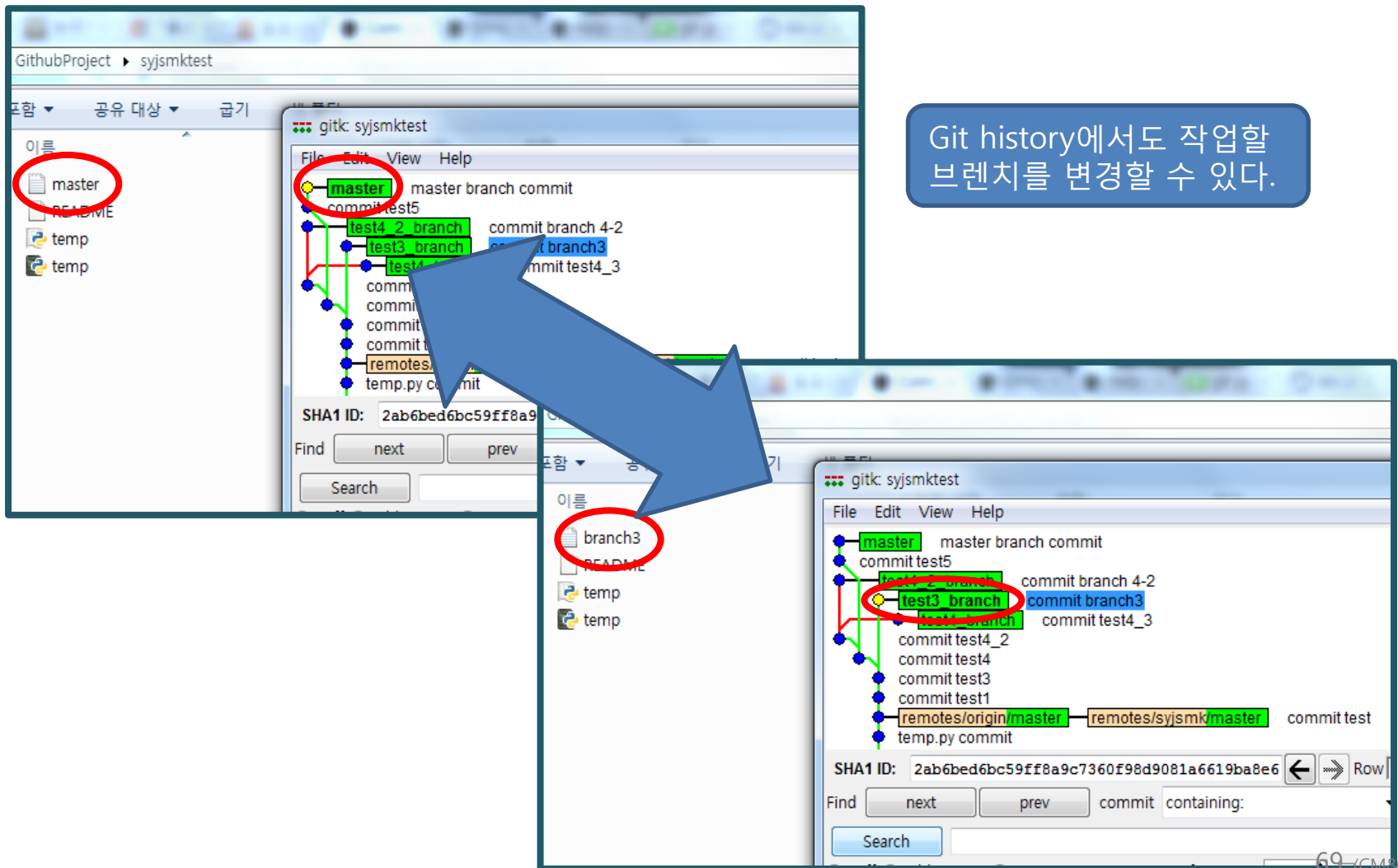


Github

◆ Branch의 생성



Github



Github

◆ Branch의 commit, push

The image shows a Git terminal window and a GitHub commit history page. The terminal window displays a commit on the 'test4_branch' branch, with a callout bubble indicating it was committed on 3/28. The GitHub page shows a commit history where the most recent commit is highlighted with a blue box and a callout bubble indicating it was committed on 3/28. An older commit from 3/27 is also highlighted with a blue box and a callout bubble indicating it was not reflected.

3/28일에 commit

```
syjsmk <syjsmk@naver.com> 2012-03-28 16:43:13
syjsmk <syjsmk@naver.com> 2012-03-28 16:27:22
syjsmk <syjsmk@naver.com> 2012-03-28 16:40:21
syjsmk <syjsmk@naver.com> 2012-03-28 16:39:34
syjsmk <syjsmk@naver.com> 2012-03-28 16:35:18
syjsmk <syjsmk@naver.com> 2012-03-28 16:33:44
syjsmk <syjsmk@naver.com> 2012-03-28 16:26:15
syjsmk <syjsmk@naver.com> 2012-03-28 16:25:36
syjsmk <syjsmk@naver.com> 2012-03-28 16:23:00
syjsmk <syjsmk@naver.com> 2012-03-28 15:57:45
syjsmk <syjsmk@naver.com> 2012-03-27 20:18:15
```

3/27까지 반영되어있음

Mar 27, 2012
commit test
syjsmk authored an hour ago
2fadc97d11
Browse code

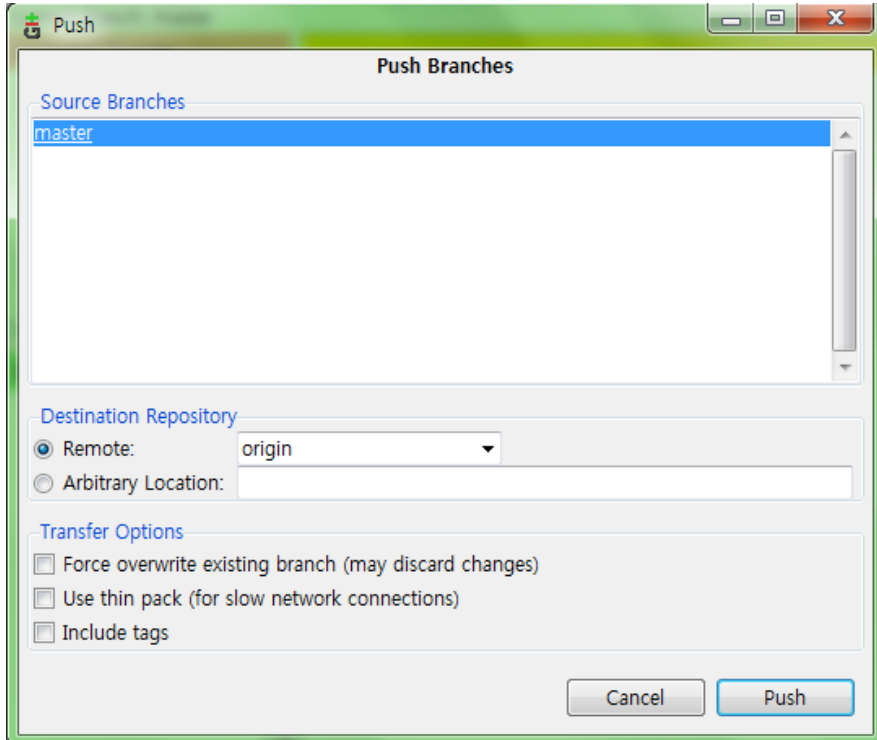
Mar 21, 2012
temp.py commit
syjsmk authored 7 days ago
b08b75ebcd
Browse code

→ 로컬저장소에만 commit된 것이기에
원격저장소에는 반영되지 않았음

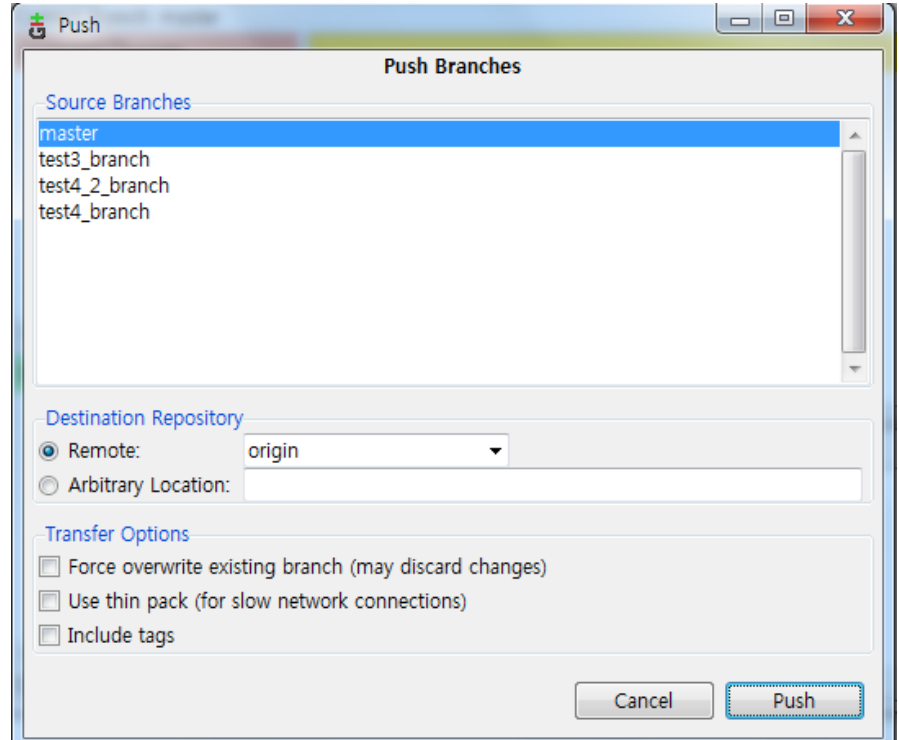
Github

◆ Branch의 commit, push

Branch 생성 전

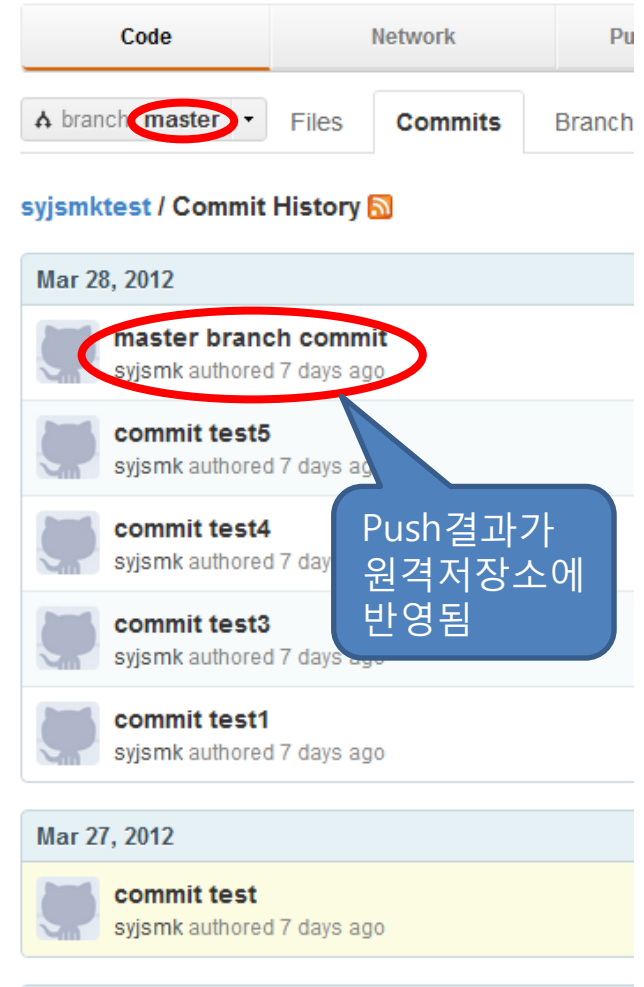
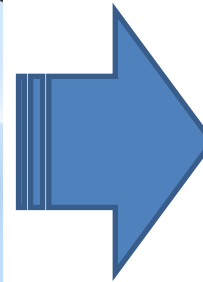
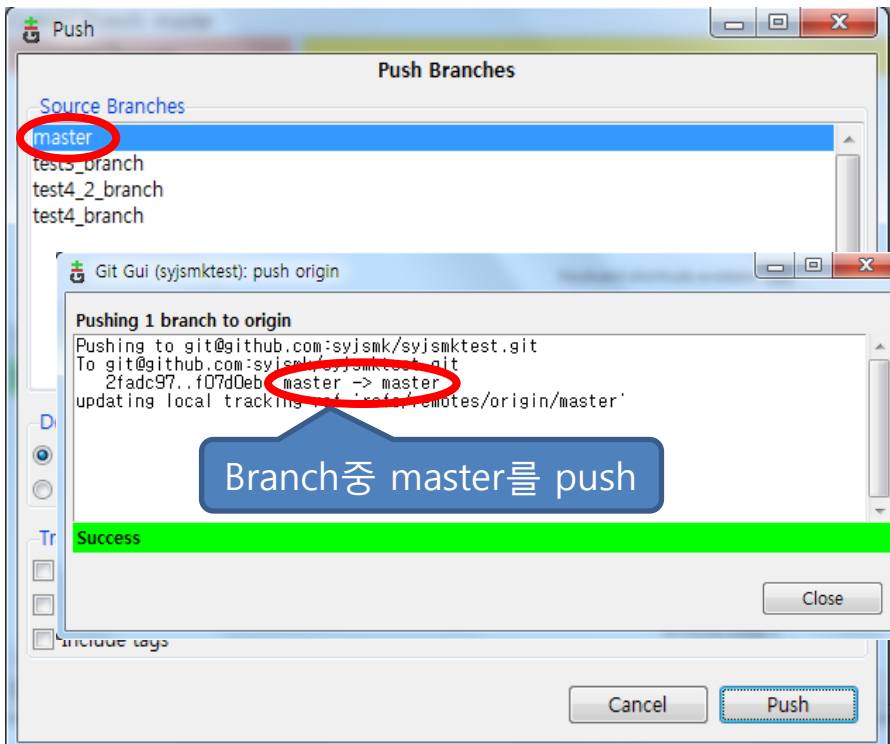


Branch 생성 후



Github

◆ Branch의 commit, push



Github

◆ Branch의 commit, push

The image shows two screenshots of the GitHub web interface. The left screenshot shows the 'Switch Branches/Tags' modal window with a list of branches: master, test3_branch, test4_2_branch, and test4_branch. A blue callout box with Korean text says '각 branch별로 push 현황을 볼수 있다.' (You can see the push status for each branch). The 'test4_2_branch' is circled in red. An orange arrow points from this branch to the right screenshot. The right screenshot shows the commit history for the 'test4_2_branch', with the commit 'commit branch 4-2' circled in red. Another orange arrow points from the 'test4_2_branch' in the left screenshot to the 'test4_2_branch' dropdown in the right screenshot. The top screenshot shows the commit history for the 'master' branch, with the commit 'master branch commit' circled in red.

Code Network

branch: master Files Commits

Switch Branches/Tags

Filter branches

Branches

- master
- test3_branch
- test4_2_branch
- test4_branch

commit test3
syjsmk authored 7 days ago

commit test1
syjsmk authored 7 days ago

Mar 27, 2012

Code Network Pull Requests

branch: test4_2_branch Files Commits Branch

syjsmktest / Commit History

Mar 28, 2012

- master branch commit
syjsmk authored 7 days ago
- commit test5
syjsmk authored 7 days ago

Code Network Pull Requests

branch: test4_2_branch Files Commits Branch

syjsmktest / Commit History

Mar 28, 2012

- commit branch 4-2
syjsmk authored 9 minutes ago
- commit test4_2
syjsmk authored 16 minutes ago

Github

◆ Branch o/ commit, push

github ⚙ Explore Gist Blog Help syjsmk 👤 ✂ 📄

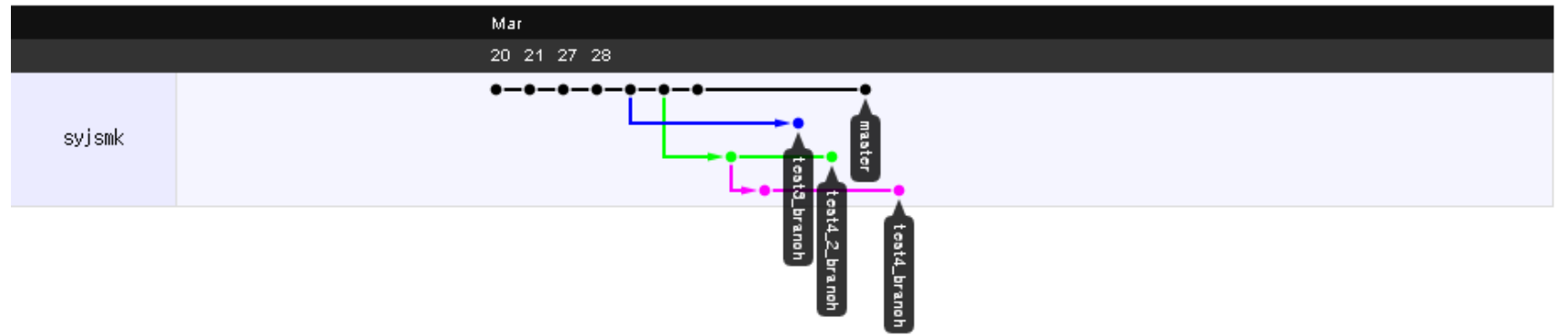
👤 syjsmk / syjsmktest 🔧 Admin 👁 Unwatch 🍴 Fork 📄 Pull Request 👁 1 👤 1

Code **Network** Pull Requests 0 Issues 0 Wiki 0 Stats & Graphs

Graph Members Fork Queue

The syjsmktest network graph Keyboard shortcuts available
All branches in the network using syjsmk/syjsmktest as the reference point. [Read our blog post about how it works.](#)

[Show Help](#) Last updated: 2 minutes ago



Github

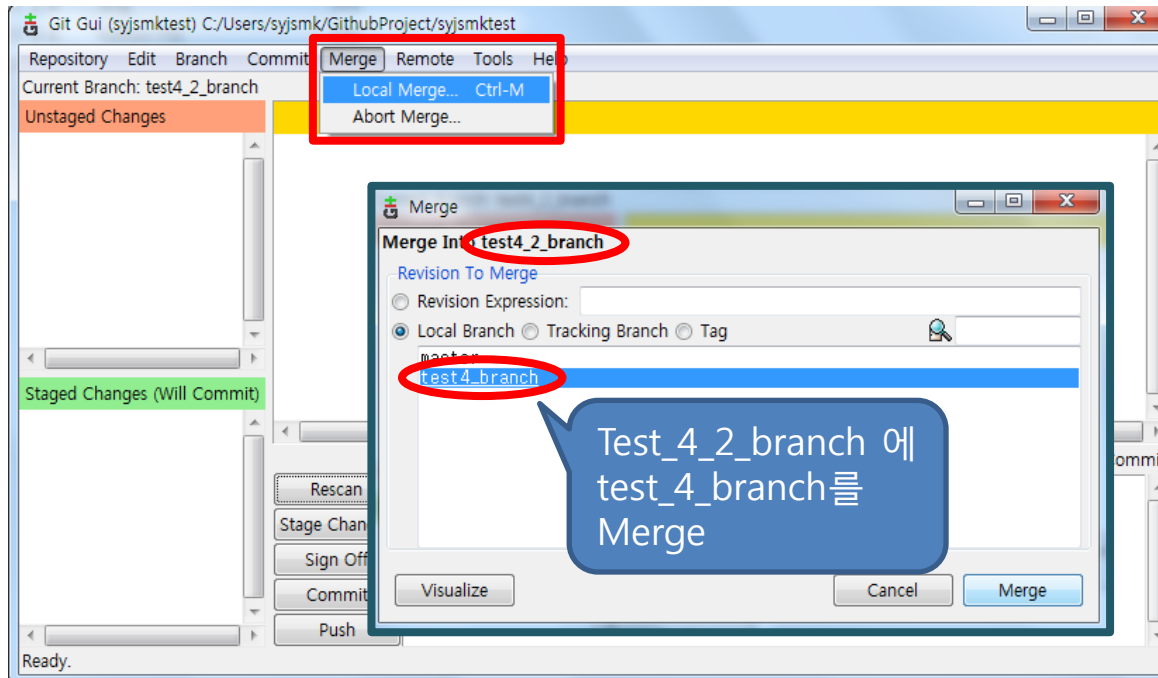
◆ *Merge*

- 병렬로 진행된 개발 과정에서 나누어진 두 branch를 다시 합치는 것

Github

◆ Merge 실행과정

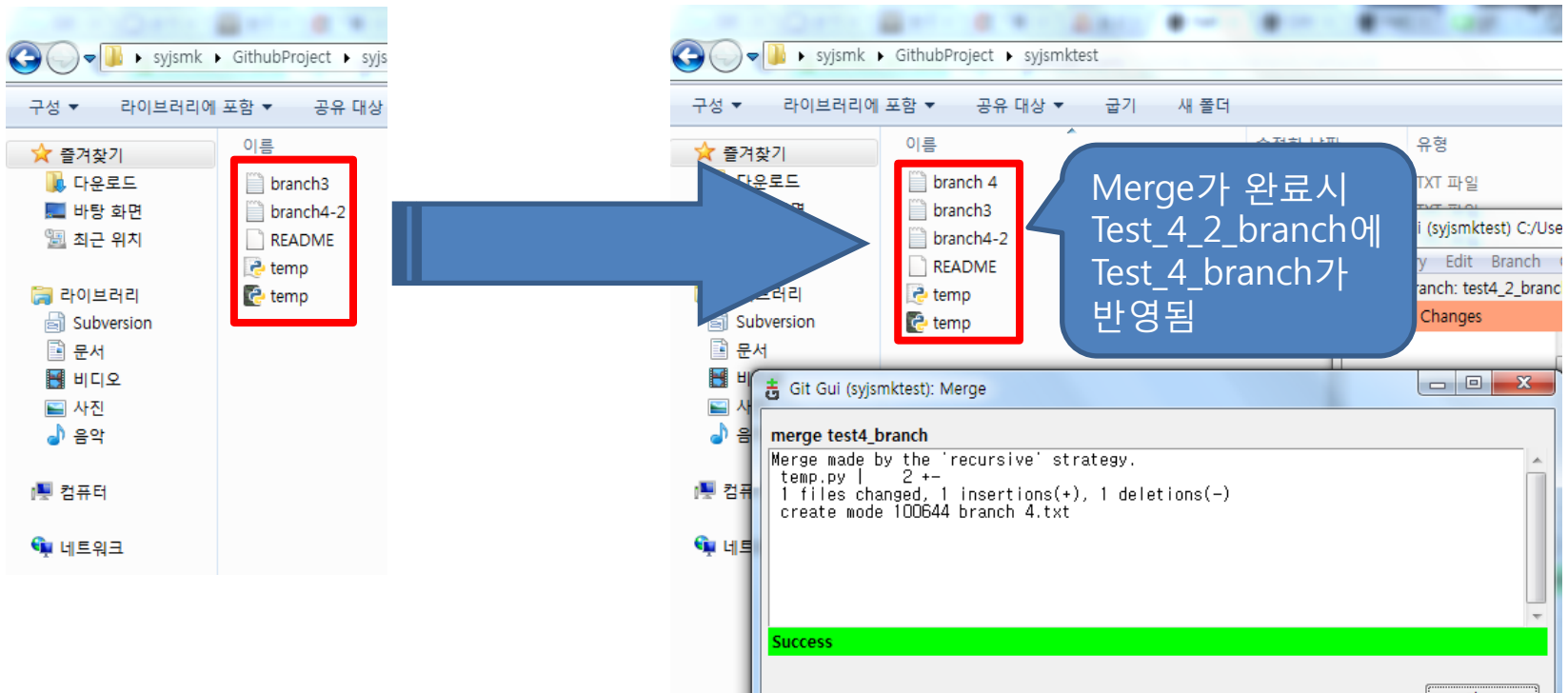
- Test_4_2_branch 에 test_4_branch를 Merge하는 과정



Github

◆ Merge 실행과정

- Test_4_2_branch 에 test_4_branch를 Merge하는 과정



Github

◆ Merge 실행과정

- Test_4_2_branch 에 test_4_branch를 Merge하는 과정

The screenshot displays the GitHub interface for the repository 'syjsmk / syjsmktest'. The 'Commit History' tab is selected, showing a list of commits for the 'test4_2_branch' branch. The most recent commit is 'Merge branch 'test4_branch' into test4_2_branch' by syjsmk, authored 2 hours ago. Below this, there is another merge commit 'Merge branch 'test3_branch' into test4_2_branch' and a commit 'commit branch4'. A network graph is visible at the bottom, illustrating the relationships between branches: 'master', 'test3_branch', 'test4_branch', and 'test4_2_branch'. The graph shows that 'test4_2_branch' is the parent of 'test4_branch', and 'test4_branch' is merged into 'test4_2_branch'. 'test3_branch' is also merged into 'test4_2_branch'. 'master' is the parent of 'test3_branch'.

Github

◆ Commit 이전 상태로 돌리는 과정

1 Commit History에서 원하는 버전으로 브랜치를 설정

2 Reset test3_branch branch to here

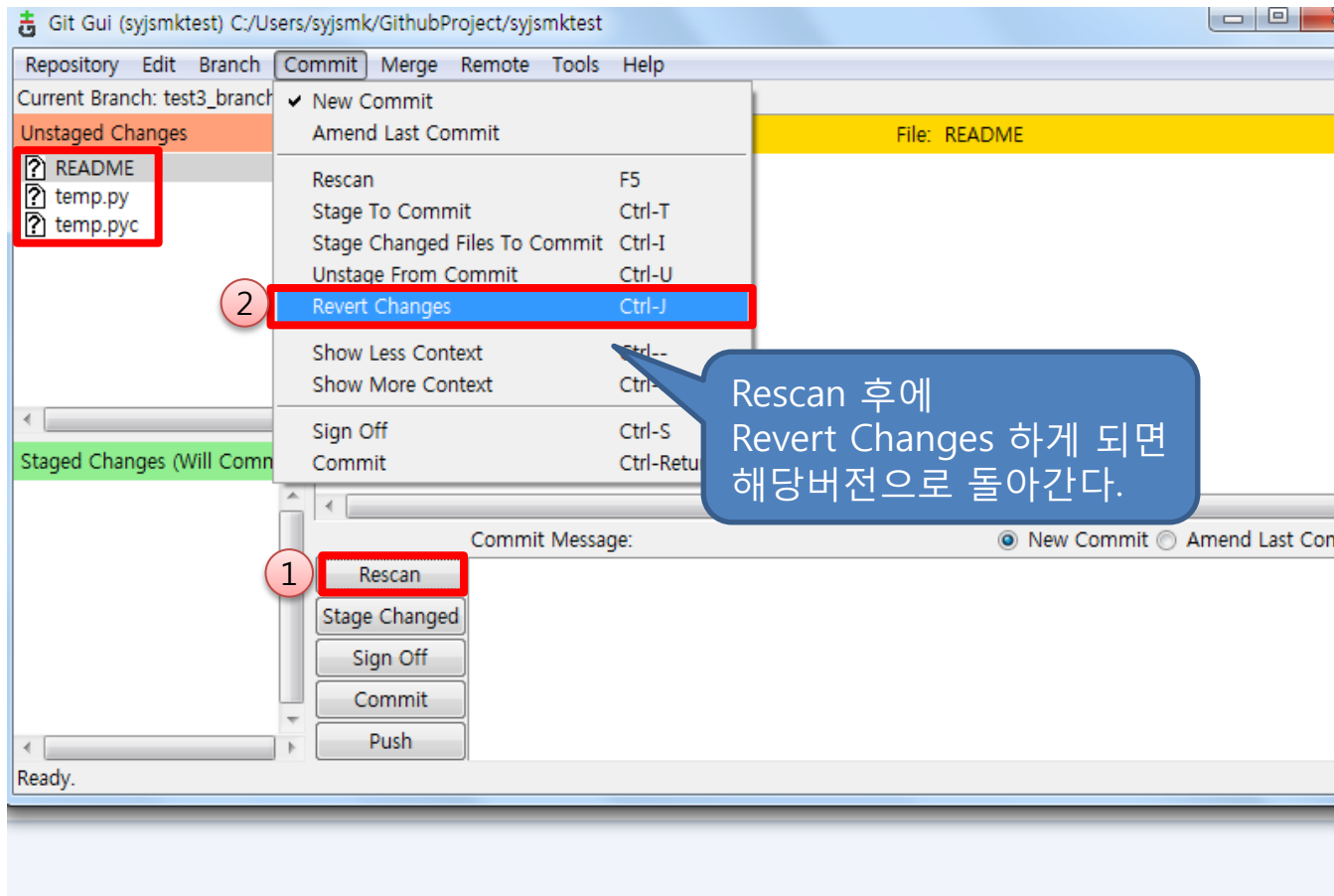
```
gitk: syjsmktest
File Edit View Help
test4_branch remotes/origin/test4_branch commit branch4 syjsmk <syjsmk@naver.com> 2012-03-28 20:07:59
commit test4_3 svismk <svismk@naver.com> 2012-03-28 16:35:18
Merge branch 'test3_branch' into test4_2_branch syjsmk <syjsmk@naver.com> 2012-03-28 16:39:34
test3_branch remotes/origin/test3_branch commit branch3 syjsmk <syjsmk@naver.com> 2012-03-28 16:39:34
commit branch 4-2 svismk <svismk@naver.com> 2012-03-28 16:40:21
commit test4_2 syjsmk <syjsmk@naver.com> 2012-03-28 16:33:44
master remotes/origin/master master branch commit syjsmk <syjsmk@naver.com> 2012-03-28 16:43:13
commit test5 syjsmk <syjsmk@naver.com> 2012-03-28 16:27:22
commit test4 syjsmk <syjsmk@naver.com> 2012-03-28 16:26:15
commit test3 syjsmk <syjsmk@naver.com> 2012-03-28 16:25:36
svismk <svismk@naver.com> 2012-03-28 16:23:00

SHA1 ID: 202e2cd7f5bc827388d981bded8a97a7b1c50d3e
Find next prev commit containing:
Search
Diff this -> selected
Diff selected -> this
Make patch
Create tag
Write commit to file
Create new branch
Cherry-pick this commit
Reset test3_branch branch to here
Return to mark
Find descendant of this and mark
Compare with marked commit

commit test3
----- temp.py -----
index 27a552d..0467928 100644
@@ -1,5 +1,5 @@
class GitTest:
- def tempTest(self):
+ print "commit test1"
+ print "commit test3"
```

Github

◆ Commit 이전 상태로 돌리는 과정



Github

◆ clone

- 그렇다면 다른 사람과 이 프로젝트로 협업을 하게 된다면?
- git clone을 사용하면 저장소 소스코드를 그대로 checkout 받을수 있다.

The image shows a GitHub repository page for 'syjsmk / syjsmktest' and a terminal window. The terminal window shows the execution of the 'git clone' command to copy the repository to a local directory.

GitHub Repository Page:

- Repository: syjsmk / syjsmktest
- Code: test — Read mo
- Download options: ZIP, SSH, HTTP, Git Read-Only
- Git Read-Only URL: `git@github.com:syjsmk/syjsmktest.git` (highlighted with a red box)
- Branch: master
- Files, Commits, Branches (1)
- Latest commit to the master branch: temp.py commit by syjsmk, authored 7 days ago

Terminal Window (MINGW32):

```
syjsmk@서영주-PC /C/Users/syjsmk/GithubProject/syjsmktest
$ pull
sh: pull: command not found

syjsmk@서영주-PC /C/Users/syjsmk/GithubProject/syjsmktest
$ git clone git@github.com:syjsmk/syjsmktest.git
Cloning into 'syjsmktest'...
Enter passphrase for key '/c/Users/syjsmk/.ssh/id_rsa':
remote: Counting objects: 7, done.
remote: Compressing objects: 100% (5/5), done.
remote: Total 7 (delta 0), reused 7 (delta 0)
Receiving objects: 100% (7/7), done.

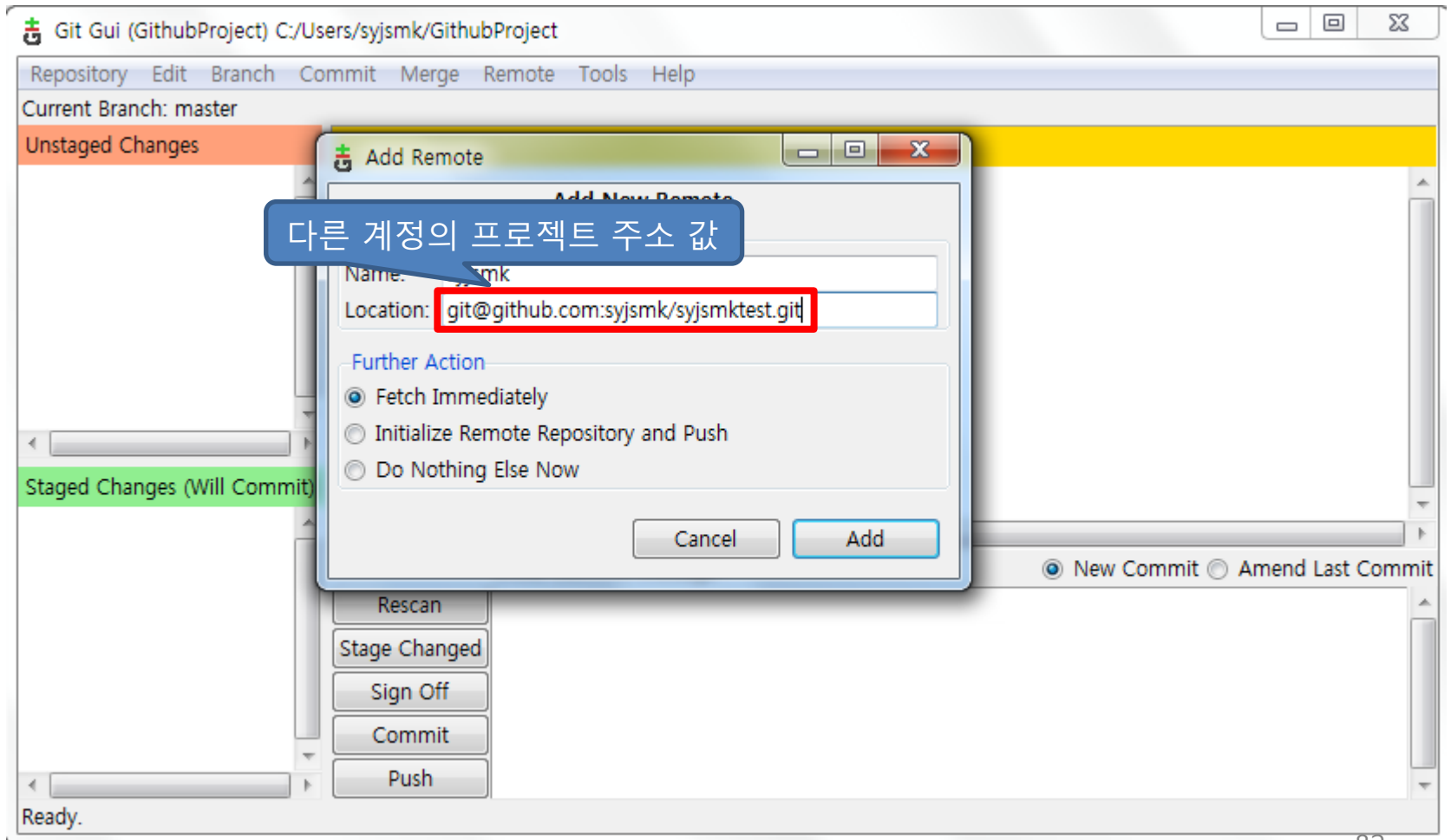
syjsmk@서영주-PC /C/Users/syjsmk/GithubProject/syjsmktest
$
```

Annotations:

- 다른 계정의 프로젝트 주소 값 (Different account project address value)
- git clone 명령어를 이용해 다른 계정의 프로젝트를 복사 하여 작업할 수 있음. (Using the git clone command, you can copy the project from another account and work on it.)

Github

◆ *clone*



CM Tools – Summary.

◆ *CVS*

- 파일 단위의 commit
- log확인 등의 관리가 용이

◆ *SVN*

- Atomic commit
- 빠른 속도와 효율적인 용량
- 디렉토리 이동이 편리
- 구성 요소가 많아 설치가 불편
- 오프라인에서 사용이 용이

◆ *Github*

- 분산형 형상관리
 - 네트워크 환경이 좋지 않은 곳에서도 빠르게 Repository에 반영 가능.
 - 로컬마다 별도의 형상관리를 할 수 있다.
- Social Coding
 - 다른 개발자들의 흥미있는 프로젝트에 언제든지 참여할 수 있다.

RE Tools

- Requirement Engineering
- JFeature
- OSRMT

Requirement Engineering

◆ 정의

- 시스템 요구사항 문서를 생성, 검증, 관리하기 위하여 수행되는 구조화된 활동의 집합

◆ 목표

- 개발하려는 소프트웨어 특징과 개발과정에서 제약 요소를 분명히 파악하고 명세화 해야함

소프트웨어 사용분야의 증가
→ 복잡하고 다양한 요구사항을 수용해야함
→ 요구사항 분석을 명확히 파악하는 과정
또한 복잡하고 어려워짐.



전체 개발 싸이클에 최신의 요구사항을
적용시키기 위한 관리체계 필요

RE Tool !!

RE Tools

- Requirement Engineering
- **JFeature**
- OSRMT

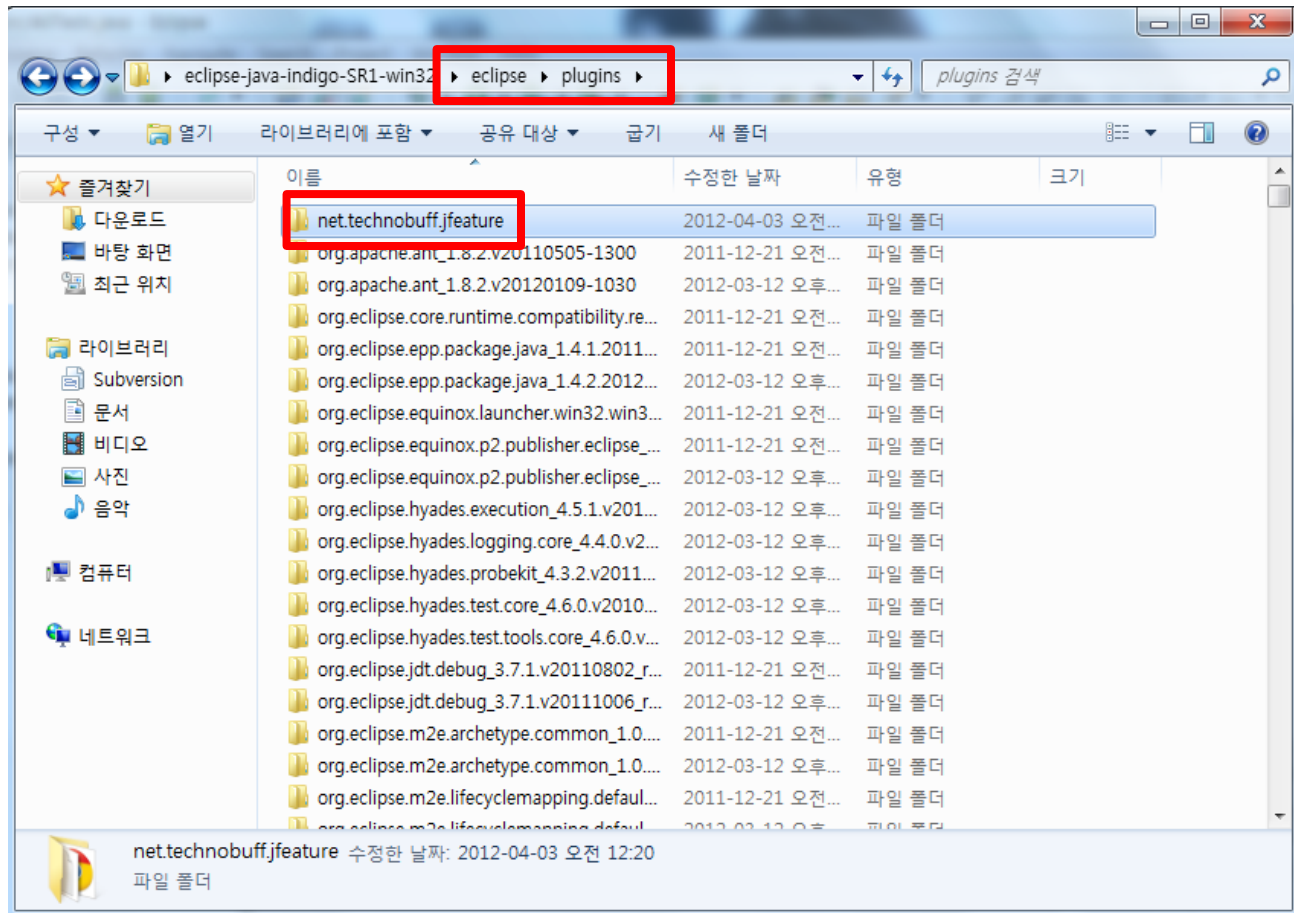
JFeature

◆ *Jfeature*

- 요구사항 작성 가능
- Eclipse에서 손쉽게 작동 가능
- Junit과 Testcase와 요구사항을 연결(Mapping)시켜 Coverage Report를 생성
- Jfeature로 정의된 요구사항을 CSV 와 XML로 Import / Export 가능

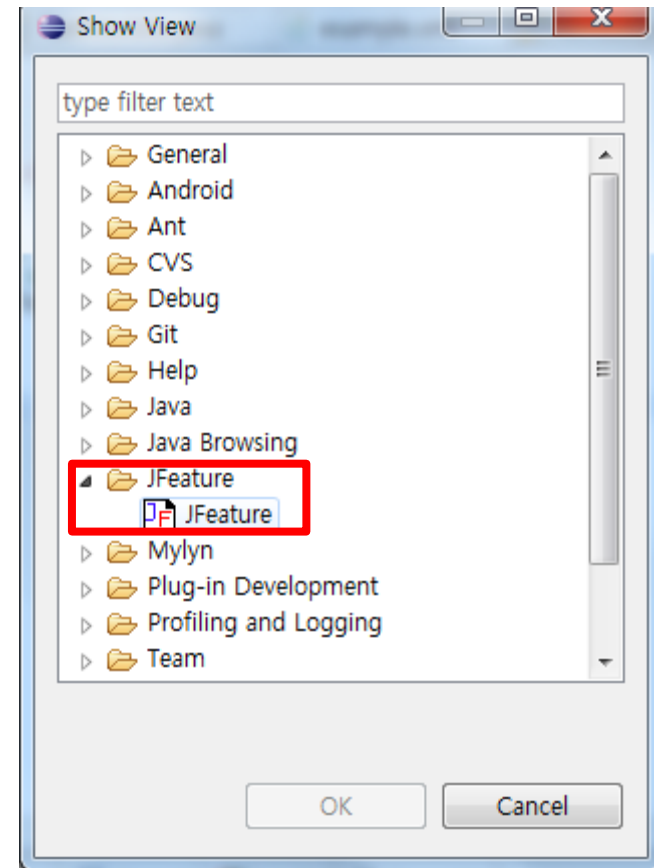
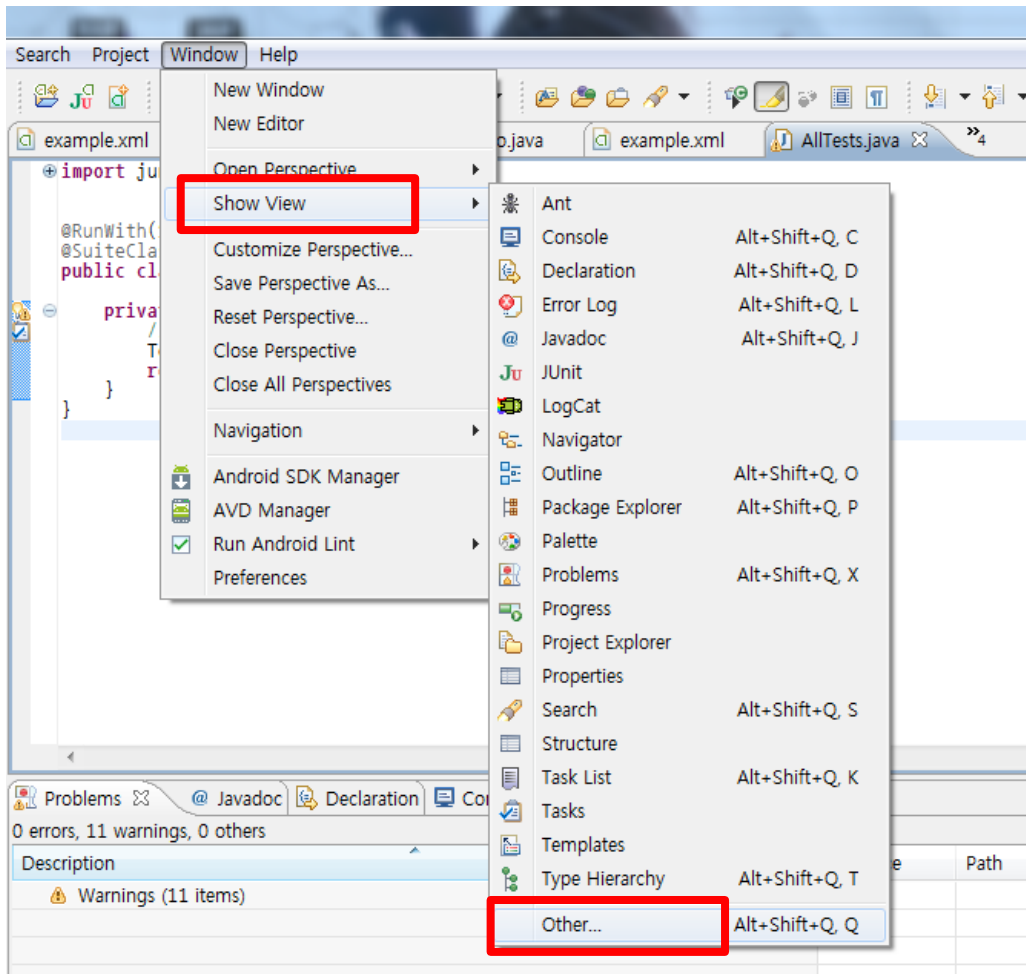
JFeature

◆ Jfeature 설치 : Eclipse Plugin



JFeature

◆ Jfeature 설치과정



JFeature

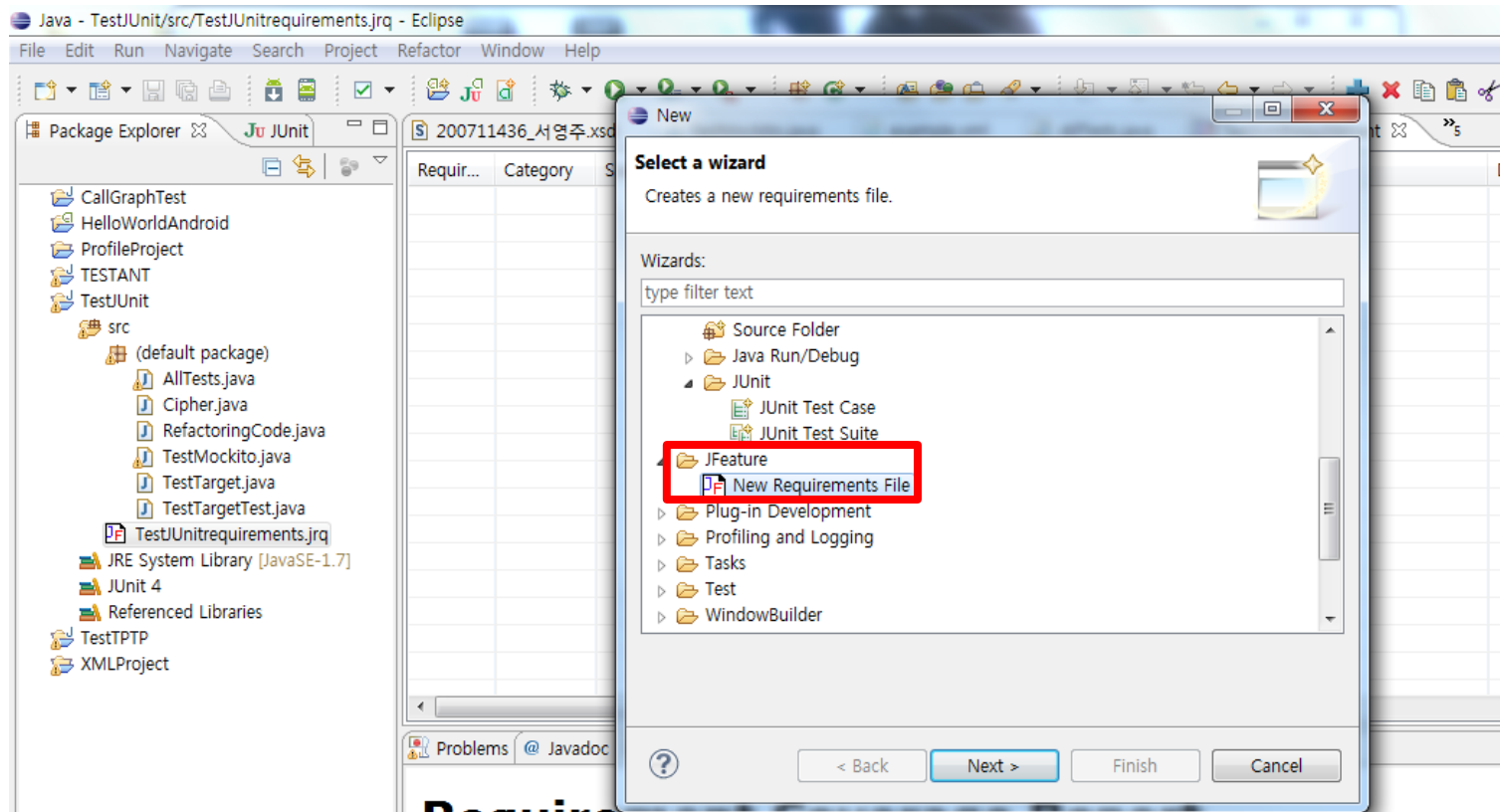
◆ Jfeature 설치과정

The screenshot shows the Eclipse IDE interface. The 'JFeature' tab is highlighted with a red box. Below the IDE, a 'Requirement Coverage Report' is displayed with the following steps:

1. Associate one or more requirement file(s) with project via "Project->Properties->JFeature".
2. Run the unit test(s).
3. Refresh the Coverage Report.

JFeature

◆ Jfeature 사용 : Coverage Report 생성



Requirement Coverage Report

1. Associate one or more requirement file(s) with project via "Project->Properties->JFeat
2. Run the unit test(s).
3. Refresh the Coverage Report.

JFeature

◆ Jfeature 사용 : Coverage Report 생성

The screenshot shows the Eclipse IDE with the 'New Requirements File' wizard open. The wizard is titled 'New Requirements File' and has a 'Select a wizard' section. Under 'Wizards:', there is a list of options, with 'New Requirements File' highlighted by a red box. The wizard also shows a tree view of projects, with 'TestJUnit' selected. A blue callout bubble points to the 'TestJUnit' project in the tree view, containing the text: '기존 프로젝트에서 Jfeature 파일을 추가할 프로젝트를 선택'.

Requirement Coverage Report

1. Associate one or more requirement file(s) with project via Project > Properties > Java
2. Run the unit test(s).
3. Refresh the Coverage Report.

JFeature

◆ Jfeature 사용 : Coverage Report 생성

+를 눌러 항목을 추가하면 새 항목이 추가된다.

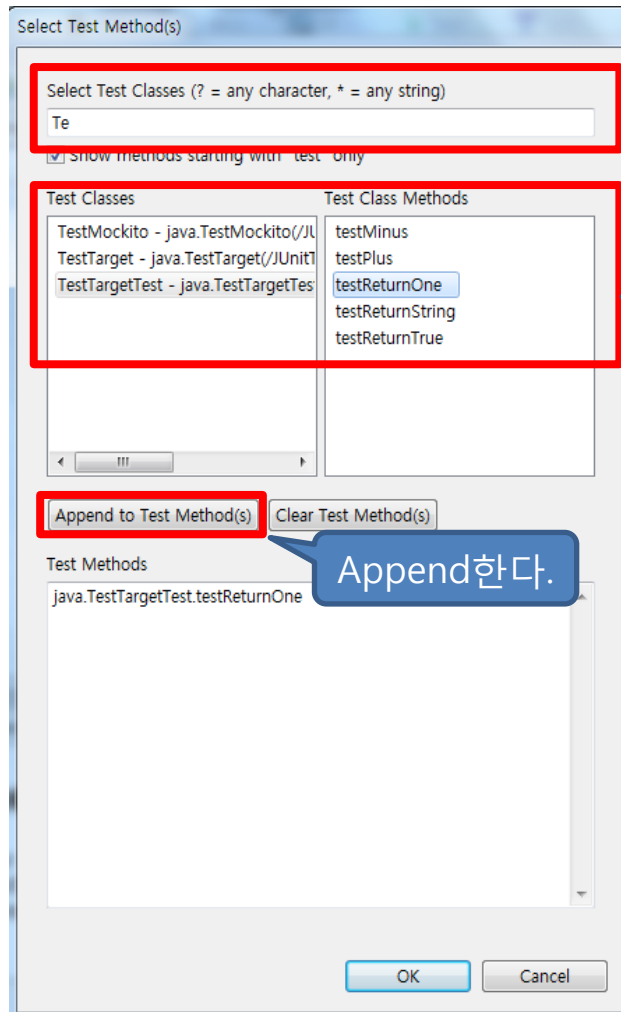
Requirement ID	Category	Sub_Category	Title	Target R	Priority	Must	Test Methods
1			TestTargetTest		3	No	

Requirement Coverage Report

1. Associate one or more requirement file(s) with project via "Project->Properties->JFeature".
2. Run the unit test(s).
3. Refresh the Coverage Report.

JFeature

◆ Jfeature 사용 : Coverage Report 생성



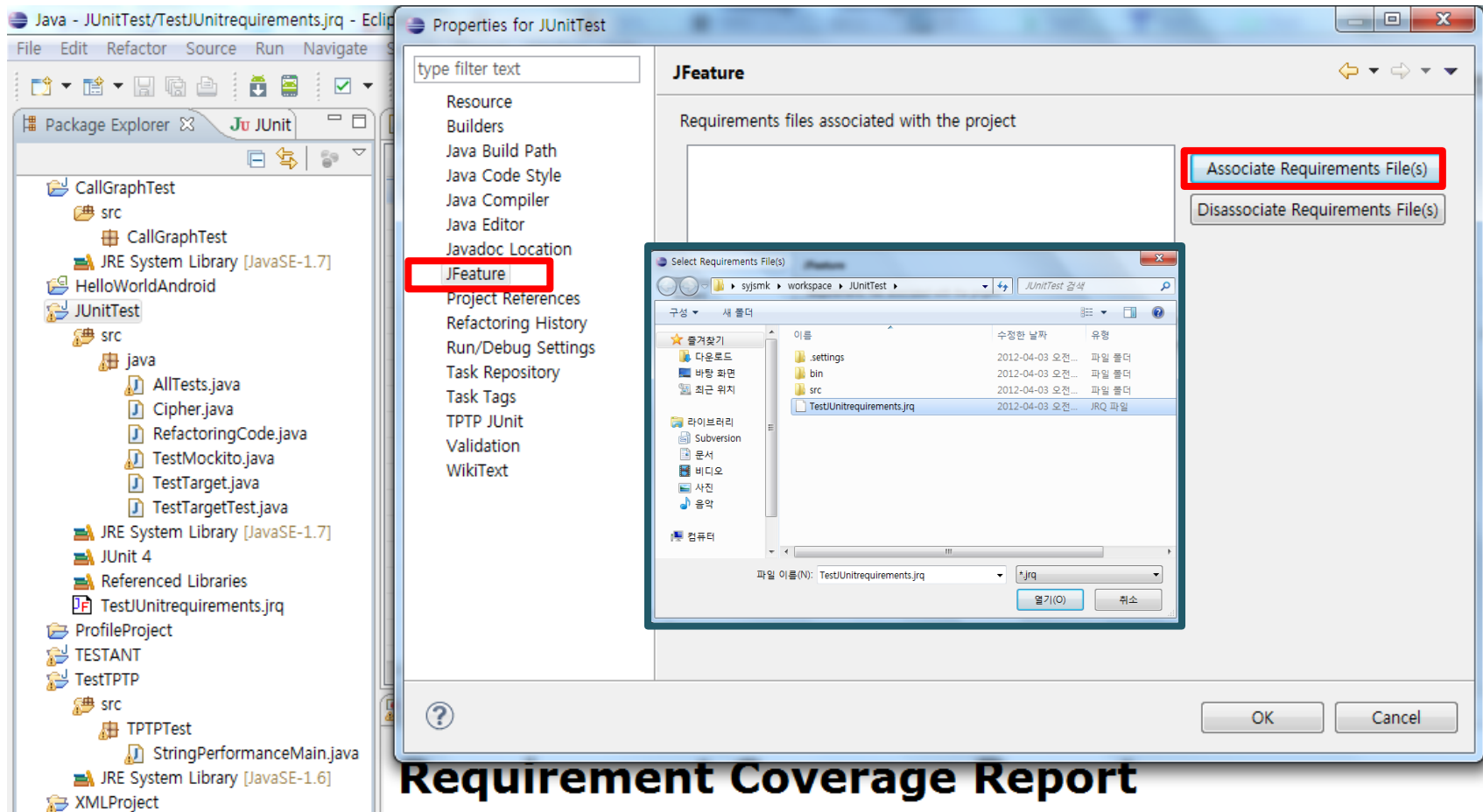
테스트 하려는 클래스 이름 입력

해당 클래스에서 테스트하려는 Method 선택한 후,

Append한다.

JFeature

◆ Jfeature 사용 : Coverage Report 생성



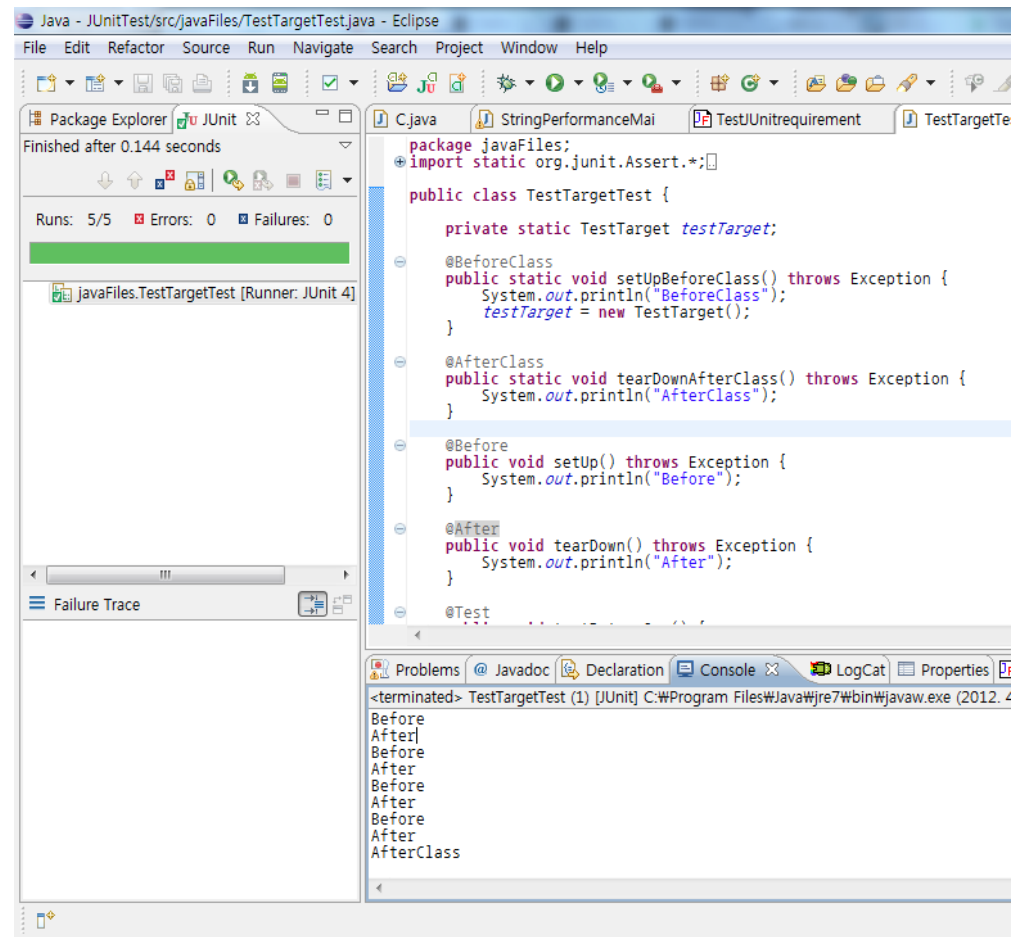
Requirement Coverage Report

1. Associate one or more requirement file(s) with project via "Project->Properties->JFeature".
2. Run the unit test(s).
3. Refresh the Coverage Report.

JFeature

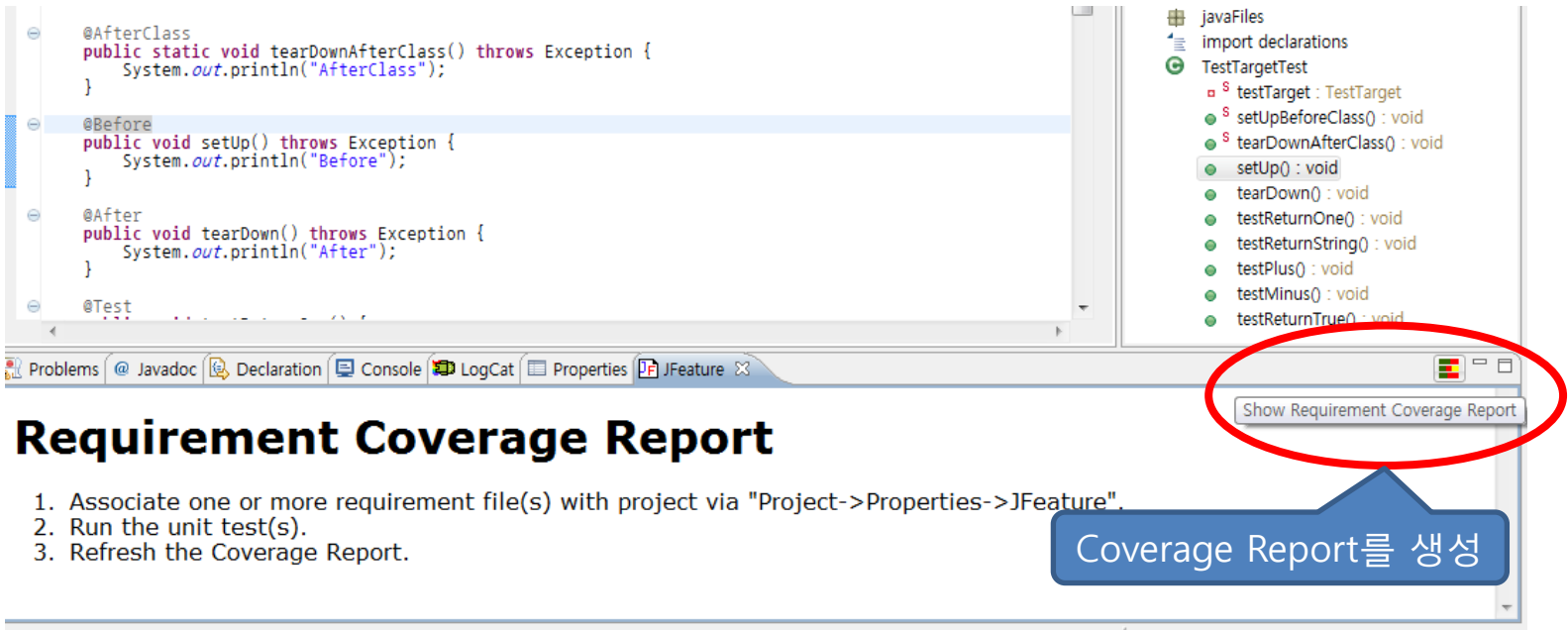
◆ Jfeature 사용 : Coverage Report 생성

- Junit으로 프로젝트 실행
Run as – Junit Test



JFeature

◆ Jfeature 사용 : Coverage Report 생성



```
@AfterClass
public static void tearDownAfterClass() throws Exception {
    System.out.println("AfterClass");
}

@Before
public void setUp() throws Exception {
    System.out.println("Before");
}

@After
public void tearDown() throws Exception {
    System.out.println("After");
}

@Test
```

Requirement Coverage Report

1. Associate one or more requirement file(s) with project via "Project->Properties->JFeature".
2. Run the unit test(s).
3. Refresh the Coverage Report.

Coverage Report를 생성

JFeature

◆ Jfeature 사용 : Coverage Report 생성

The screenshot displays the Eclipse IDE interface with the Requirement Coverage Report tool. The report is titled "Requirement Coverage Report" and includes a "Requirement Coverage Summary" section. A progress bar shows 1 (33.33%) in green, 1 (33.33%) in red, and 1 (33.33%) in yellow. The "Requirement Coverage Details" table lists three items: TestReturnOneGreen (1) with 100% coverage (green bar), ReturnOneRed (1) with 100% coverage (red bar), and NotMapping (0) with 0% coverage (yellow bar). Three callout boxes explain the colors: green for successful test cases, red for failed test cases, and yellow for missing mappings. The left sidebar shows "All Categories" (Test 0%) and "All Requirements" (TestReturnOneGre... 100%, ReturnOneRed 0%, NotMapping 0%).

Category별 분류

전체 Coverage

Requirement Coverage Report

Requirement Coverage Summary

TestReturn (3)	1 (33.33%)	1 (33.33%)	1 (33.33%)
----------------	------------	------------	------------

Number of Requirements	3
Unique Test Methods	1
Requirements:Test Methods Ratio	3:1
Missing Test Methods	1

Requirement Coverage Details

Sr#	Coverage Item	Coverage
1.	TestReturnOneGreen (1)	1 (100%)
2.	ReturnOneRed (1)	1 (100%)
3.	NotMapping (0)	0 (100%)

초록색
요구사항 만족,
testcase 성공

빨간색
요구사항 불만족,
testcase fail

노란색
요구사항-testcase
가 mapping
되지않음

Category별 분류

All Categories

Test (0%)

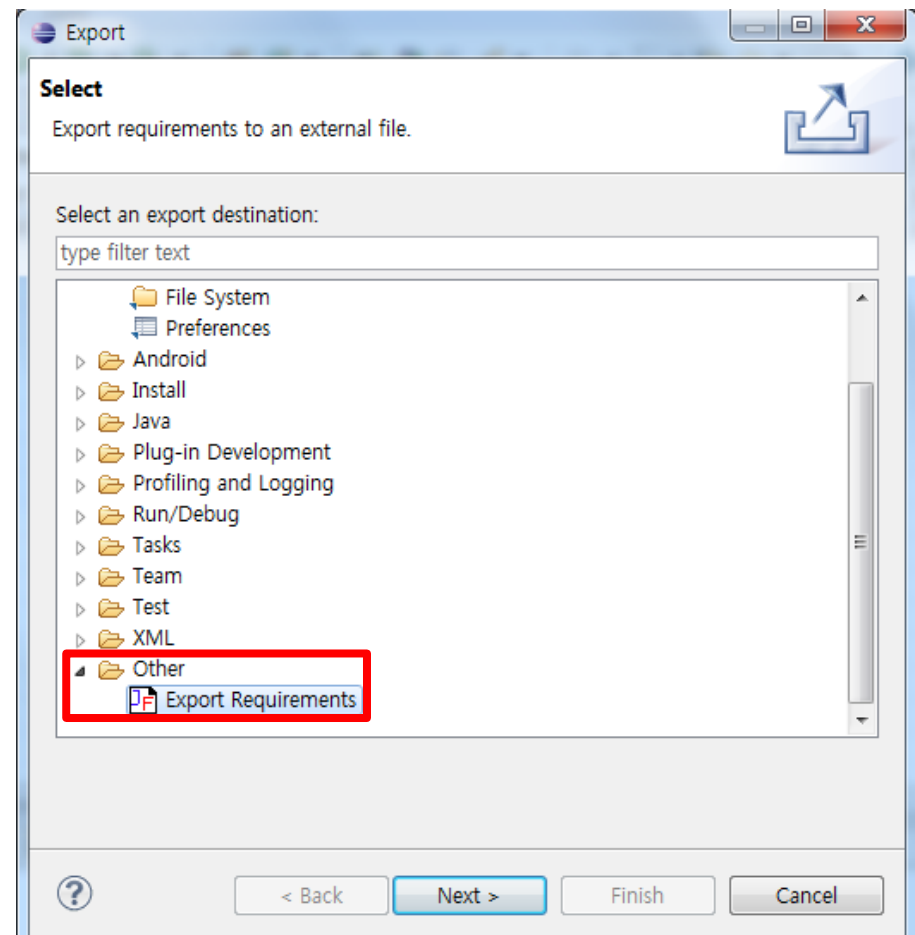
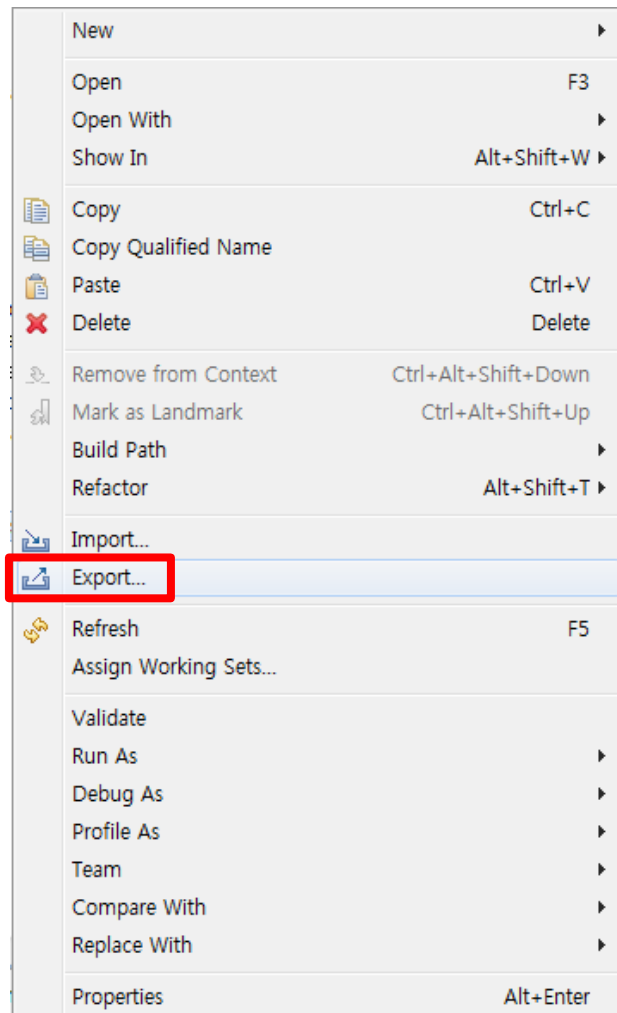
요구사항별 분류

All Requirements

TestReturnOneGre... (100%)
ReturnOneRed (0%)
NotMapping (0%)

JFeature

◆ Jfeature 사용 : Export



JFeature

◆ Jfeature 사용 : Export

Export Requirements

Exports requirements to an external file.

Export Requirements

Export requirements to CSV File

Export requirements to XML File

	A	B	C	D	E	F	G	H	I
1	Requirem	Category	Sub Categ	Title	Target Rel	Priority	Must Have	Descriptio	Notes
2	1	Test	ReturnOne	TestReturnOne		1	Yes		
3	2	Test	ReturnOne	ReturnOne		1	Yes		
4									
5									
6									
7									

```
<?xml version="1.0" encoding="UTF-8"?>
- <requirements>
  - <requirement>
    - <data>
      <![CDATA[Requirement ID]]>
    </data>
    - <data>
      <![CDATA[Category]]>
    </data>
    - <data>
      <![CDATA[Sub Category]]>
    </data>
    - <data>
      <![CDATA[Title]]>
    </data>
    - <data>
      <![CDATA[Target Release]]>
    </data>
```

JFeature

◆ *Jfeature* 주의사항

- 프로젝트 시작 이름이 Test*의 형태라면
- JFeature가 내부의 클래스들을 인식을 못함.
- 폴더 이름 Java로 지어도 말아먹음. JUnit쓰는데 에러 뜸.

RE Tools

- Requirement Engineering
- JFeature
- **OSRMT**

OSRMT

◆ *OSRMT(Open Source Requirements Management Tool)*

- 무료 요구사항 관리 도구
- 요구사항을 Feature / Requirement / Design / Implementation / TestCase로 구분하여 기술할 수 있다.
- 정의된 Requirement들 간의 의존성을 설정하여 추적 관리가 가능
- Requirement가 변경된 경우, 어떤 Requirement 에 영향을 미치는지 여부를 그림으로 확인할 수 있다.

OSRMT

◆ OSRMT 사용

The screenshot shows the SourceForge project page for OSRMT. At the top, there is a search bar and navigation links: "SOURCEFORGE", "Find Open Source Software", "Browse", "Blog", "Support", "Jobs", "Newsletters". Below this, there is a link for "Download Quiz Software" with the text "Easily Create Custom Online Quizzes 30 Days Free. Download Now!" and the URL "www.QuestionWriter.com". The main content area shows the project name "Open Source Requirements Management Tool" with a "Donate" button. It lists authors "aron-smith, ideastub, jonrw, paulsp" and shows "60 Recommendations" and "309 Downloads (This Week)". A green "Download" button is visible with the file name "osrm_t_01_50_mar28.zip". Below the download button are social media sharing options for "Tweet" (0) and "+1" (3), and a "Browse All Files" link. At the bottom, there are three small screenshots of the OSRMT application interface.

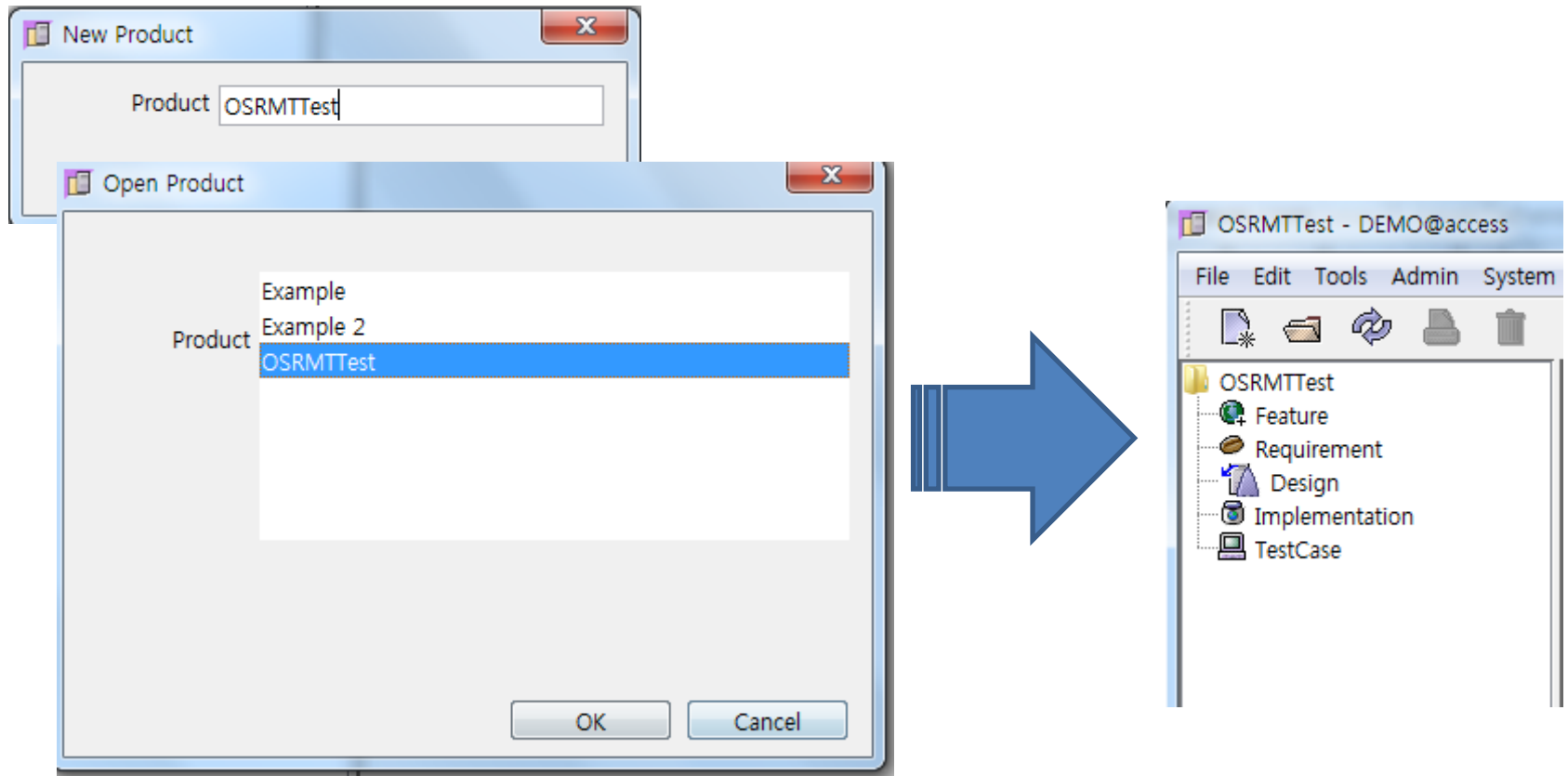
- Microsoft SQL Server 2005
- Microsoft Visual C++ 6.0
- Microsoft Visual Studio 2008
- Microsoft Windows SDK v6.0A
- MySQL
- NESpot CM
- Oracle VM VirtualBox
- OSRMT**
- iReport
- OSRMT Client
- OSRMT Server
- PlayNC
- Python 2.7
- Razor
- SpringSource
- StarUML
- Steam
- The KMPlayer
- TortoiseSVN
- TOSHIBA
- TOSHIBA DVD PLAYER
- TRIANGLE

The dialog box is titled "Log On to OSRMT Version 1.5". It contains three input fields: "Username:" with the value "DEMO", "Password:" (empty), and "Environment:" with a dropdown menu showing "access". At the bottom, there are "OK" and "Cancel" buttons.

The screenshot shows a Windows taskbar with the Start button and icons for Internet Explorer, Google Chrome, and Windows Explorer. Above the taskbar is a search bar with the text "프로그램 및 파일 검색" (Program and File Search).

OSRMT

◆ 새 프로젝트의 생성



OSRMT

◆ 프로젝트 내의 요구사항 기술

- 요구사항을 Feature / Requirement / Design / Implementation / TestCase로 구분하여 기술할 수 있다.

The screenshot illustrates the OSRMT interface for creating and managing requirements. The main window shows the 'Requirement' form with the following fields:

- Requirement: Requirement2
- Version: 1.0
- Priority: High
- Requirement Nbr: 0
- Status: Submitted
- Complexity: High
- Assigned: [Empty]
- Effort: 0.0
- Category: [Empty]

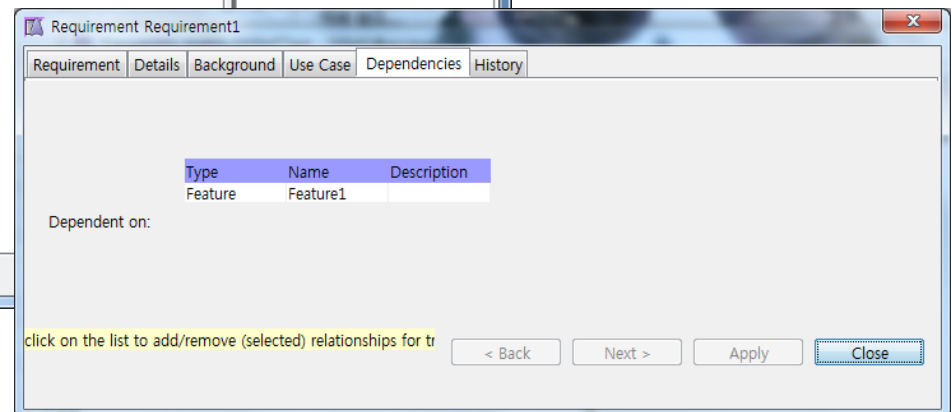
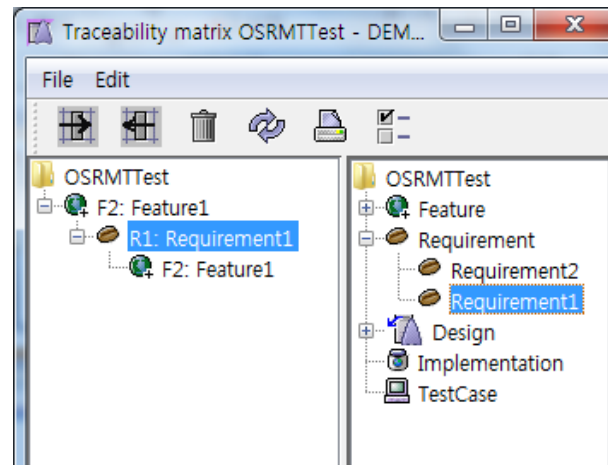
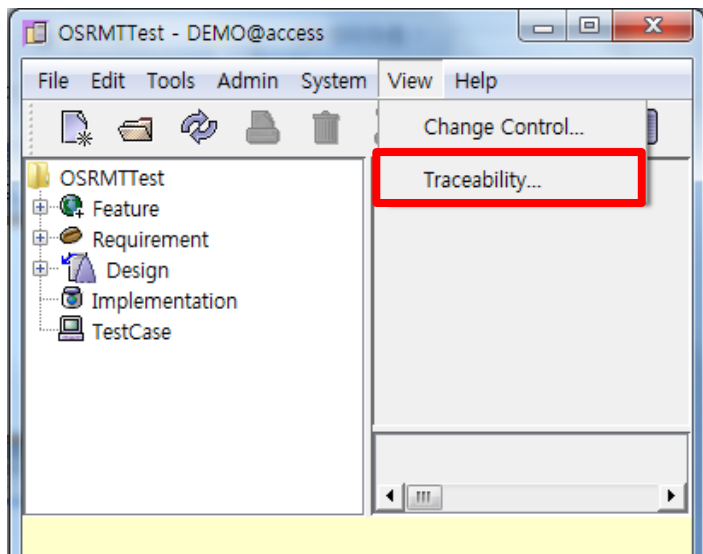
A context menu is open over the 'Requirement' artifact in the tree view, with 'Requirement' highlighted. An inset window shows a table of requirements:

Req #	Name	Priority	Status	Version	Descripi...	Created
6	Requirement2	High	Submitted	1.0		04/03/2012 15:03:53
1	Requirement1	High	Submitted	1.0		04/03/2012 14:57:23

OSRMT

◆ Requirement 변경시

- Requirement가 변경된 경우, 어떤 Requirement 에 영향을 미치는지 여부를 그림으로 확인



Jfeature & OSRMT 비교

	JFeature	OSRMT
플랫폼	Eclipse Plug-in	독립플랫폼
언어	JAVA에 제한적	언어에 독립적
자동화	요구사항에 대한 테스트 케이스 연동	요구사항 변경에 대한 추적 관리
사용자수	개인	다수
비용	무료 + 상용	무료
보고서	제공	제공

References.

◆ Books



실용주의
프로그래머
버전관리
Using CVS



이클립스 기반
프로젝트
필수 유틸리티

◆ URL

CVSNT : <http://blog.naver.com/fbstar?Redirect=Log&logNo=100115354707>

Git : <http://wiki.kldp.org/wiki.php/DocbookSgml/SSH-KLDP#AEN77>

<http://soyoja.com/429>

<http://binggrec.tistory.com/116>

<http://occamsrazr.net/tt/254>

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