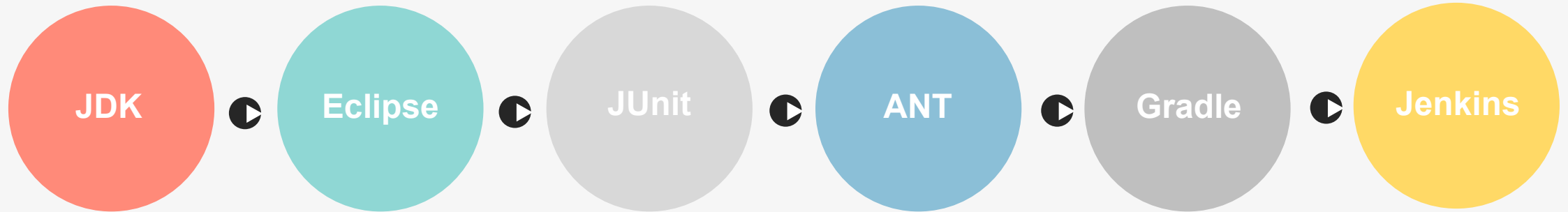


Eclipse, JUnit & Build Environment

팀명	T3
팀원	송지연, 윤상혁, 장서연
강의명	Software Verification, 유준범 교수님



Contents





JDK



JDK

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Java SE Downloads



Java Platform (JDK) 9



NetBeans with JDK 8

Java Platform, Standard Edition

Java SE 9.0.4

Java SE 9.0.4 includes important bug fixes. Oracle strongly recommends that all Java SE 9 users upgrade to this release.

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- Installation Instructions

JDK

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JDK



JDK

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Java SE Development Kit 8u161

You must accept the [Oracle Binary Code License Agreement for Java SE](#) to download this software.

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Product / File Description	File Size	Download
Linux ARM 32 Hard Float ABI	77.92 MB	jdk-8u161-linux-arm32-vfp-hflt.tar.gz
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Linux x86	183.76 MB	jdk-8u161-linux-i586.tar.gz
Linux x64	166.09 MB	jdk-8u161-linux-x64.rpm
Linux x64	180.97 MB	jdk-8u161-linux-x64.tar.gz
macOS	247.12 MB	jdk-8u161-macosx-x64.dmg
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Solaris SPARC 64-bit	99.29 MB	jdk-8u161-solaris-sparcv9.tar.gz
Solaris x64	140.57 MB	jdk-8u161-solaris-x64.tar.Z
Solaris x64	97.02 MB	jdk-8u161-solaris-x64.tar.gz
Windows x86	198.54 MB	jdk-8u161-windows-i586.exe
Windows x64	206.51 MB	jdk-8u161-windows-x64.exe

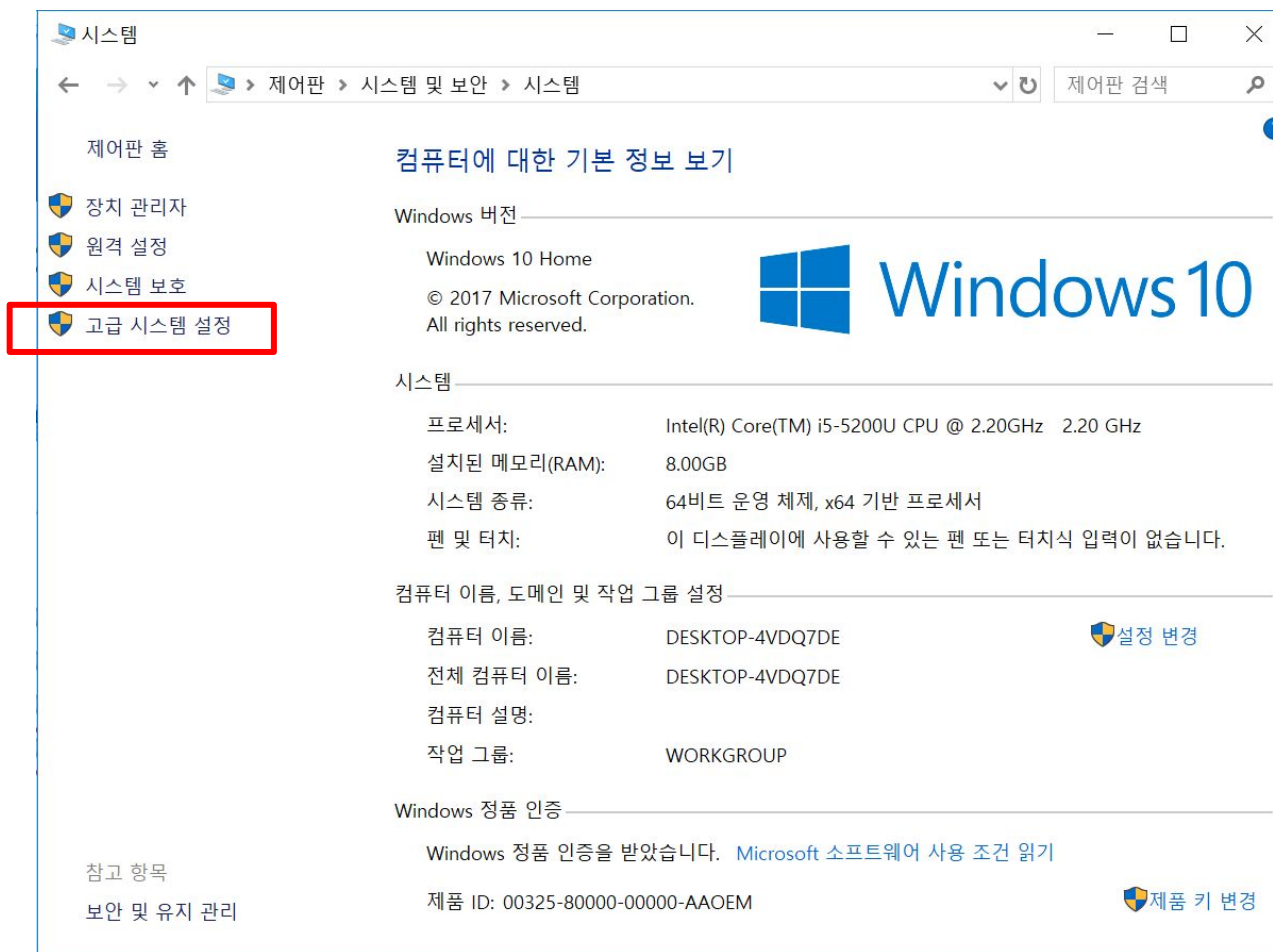


JDK

JDK

다운로드 링크 :

<https://www.oracle.com/index.html>



The screenshot shows the Windows 10 System Information page. The left sidebar contains navigation options: '장치 관리자', '원격 설정', '시스템 보호', and '고급 시스템 설정'. The '고급 시스템 설정' option is highlighted with a red box. The main content area displays system information under the heading '컴퓨터에 대한 기본 정보 보기'. The information includes Windows version (Windows 10 Home), system specifications (CPU, RAM, system type), and computer name settings.

컴퓨터에 대한 기본 정보 보기	
Windows 버전	
Windows 10 Home	
© 2017 Microsoft Corporation. All rights reserved.	
시스템	
프로세서:	Intel(R) Core(TM) i5-5200U CPU @ 2.20GHz 2.20 GHz
설치된 메모리(RAM):	8.00GB
시스템 종류:	64비트 운영 체제, x64 기반 프로세서
펜 및 터치:	이 디스플레이에 사용할 수 있는 펜 또는 터치식 입력이 없습니다.
컴퓨터 이름, 도메인 및 작업 그룹 설정	
컴퓨터 이름:	DESKTOP-4VDQ7DE 설정 변경
전체 컴퓨터 이름:	DESKTOP-4VDQ7DE
컴퓨터 설명:	
작업 그룹:	WORKGROUP
Windows 정품 인증	
Windows 정품 인증을 받았습니다. Microsoft 소프트웨어 사용 조건 읽기	
제품 ID:	00325-80000-00000-AAOEM 제품 키 변경

참고 항목

보안 및 유지 관리

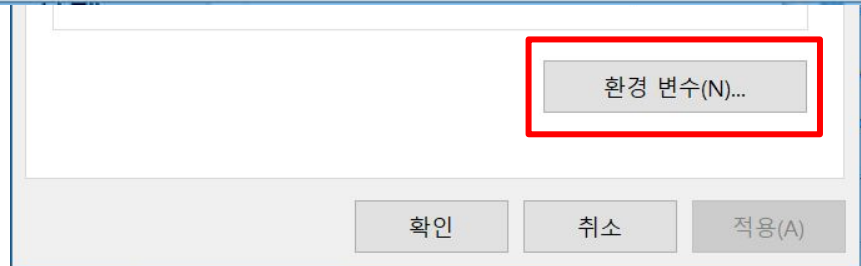
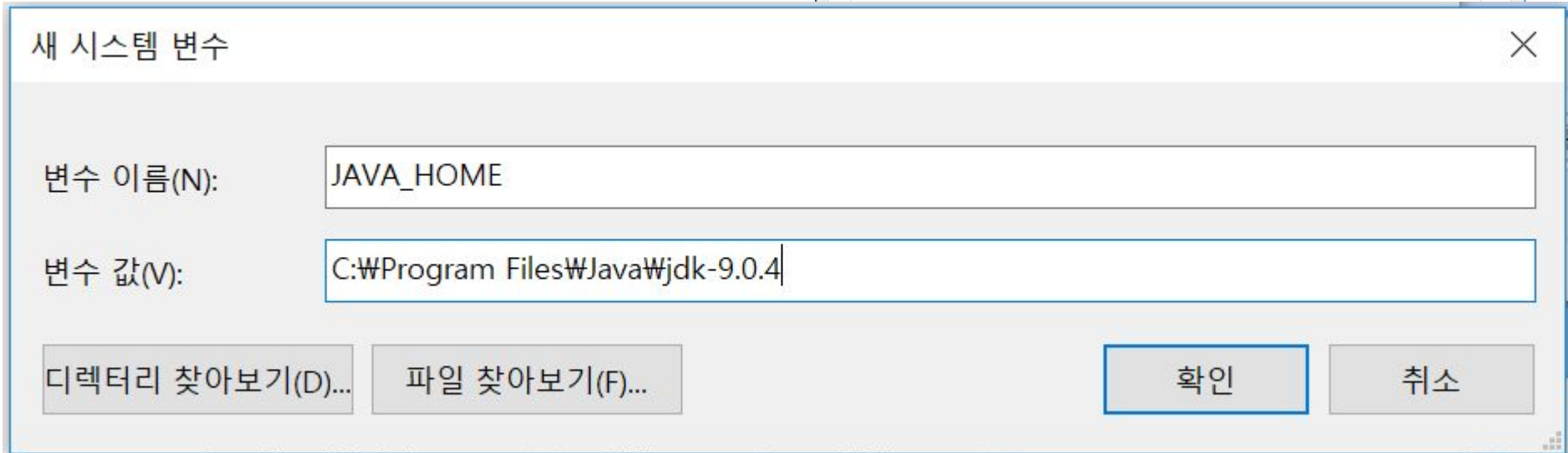
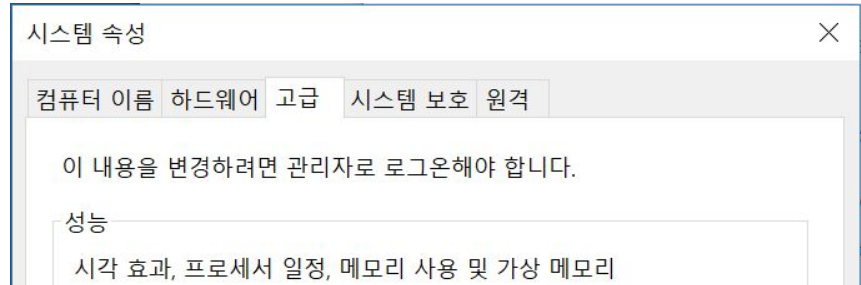


JDK

JDK

다운로드 링크 :

<https://www.oracle.com/index.html>





Eclipse이클립스

:자바 기반 통합 개발 환경(IDE)

Windows, macOS, Linux 중 어디서든 자유롭게 이용 및 수정, 재배포가 가능.

소스 편집기, 컴파일러, 디버거 등을 지원하고, 여러 프로젝트를 동시에 관리할 수 있다.



Eclipse





Eclipse이클립스

다운로드 링크 :

<https://www.eclipse.org/downloads/>

Eclipse



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Eclipse Che is a developer workspace server and cloud IDE. A modern, developm
rur



Eclipse 이클립스

다운로드 링크 :

<https://www.eclipse.org/downloads/>

Eclipse



All downloads are provided under the terms and conditions of the [Eclipse Foundation Software User Agreement](#) unless otherwise specified.

 **DOWNLOAD**

Download from: Japan - Japan Advanced Institute of Science and Technology (<http://www.aist.go.jp/ftp/eclipse/>)

File: [eclipse-inst-win64.exe](#) **SHA-512**

[>> Select Another Mirror](#)

OR Get It Faster from our Members



Eclipse이클립스

다운로드 링크 :

<https://www.eclipse.org/downloads/>

The screenshot shows the Eclipse Installer website interface. At the top, it says "eclipseinstaller by Oomph". Below that is a search bar with the placeholder text "type filter text". A list of IDE options is displayed, with the first one, "Eclipse IDE for Java Developers", highlighted by a red rectangular box. The other options are "Eclipse IDE for Java EE Developers", "Eclipse IDE for C/C++ Developers", "Eclipse IDE for JavaScript and Web Developers", and "Eclipse IDE for PHP Developers".

Icon	IDE Name	Description
	Eclipse IDE for Java Developers	The essential tools for any Java developer, including a Java IDE, a Git client, XML Editor, Mylyn, Maven and Gradle integration
	Eclipse IDE for Java EE Developers	Tools for Java developers creating Java EE and Web applications, including a Java IDE, tools for Java EE, JPA, JSF, Mylyn, EGit and others.
	Eclipse IDE for C/C++ Developers	An IDE for C/C++ developers with Mylyn integration.
	Eclipse IDE for JavaScript and Web Developers	The essential tools for any JavaScript developer, including JavaScript, HTML, CSS, XML languages support, Git client, and Mylyn.
	Eclipse IDE for PHP Developers	The essential tools for any PHP developer, including PHP language support. Git client, Mylyn and editors for JavaScript, HTML, CSS and XML.



JUnit



JUnit

단위 코드 테스트 java 기반 프레임워크

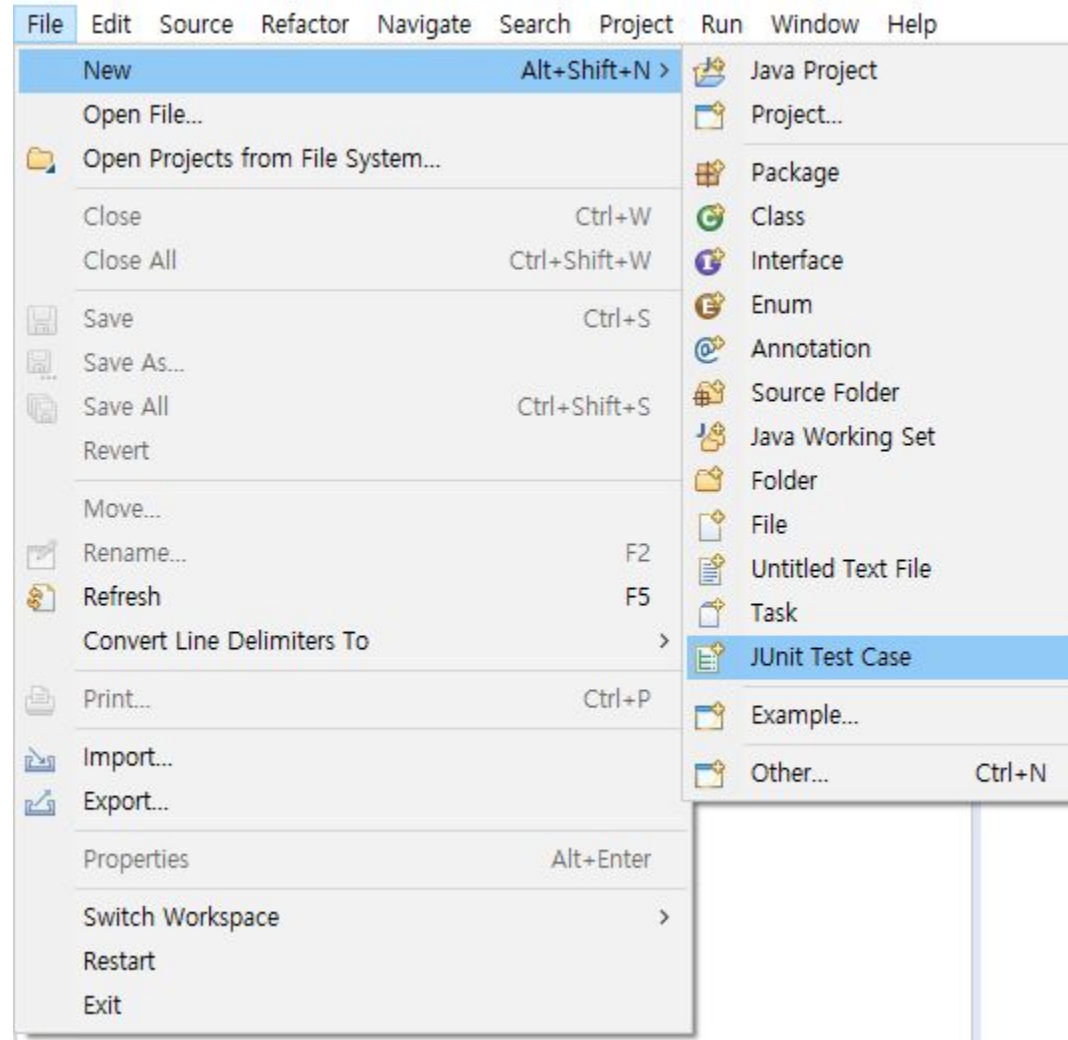
jdk, java 기반 도구 IDE 등이 필요

test case 생성 및 실행, 오류 추적

JUnit 

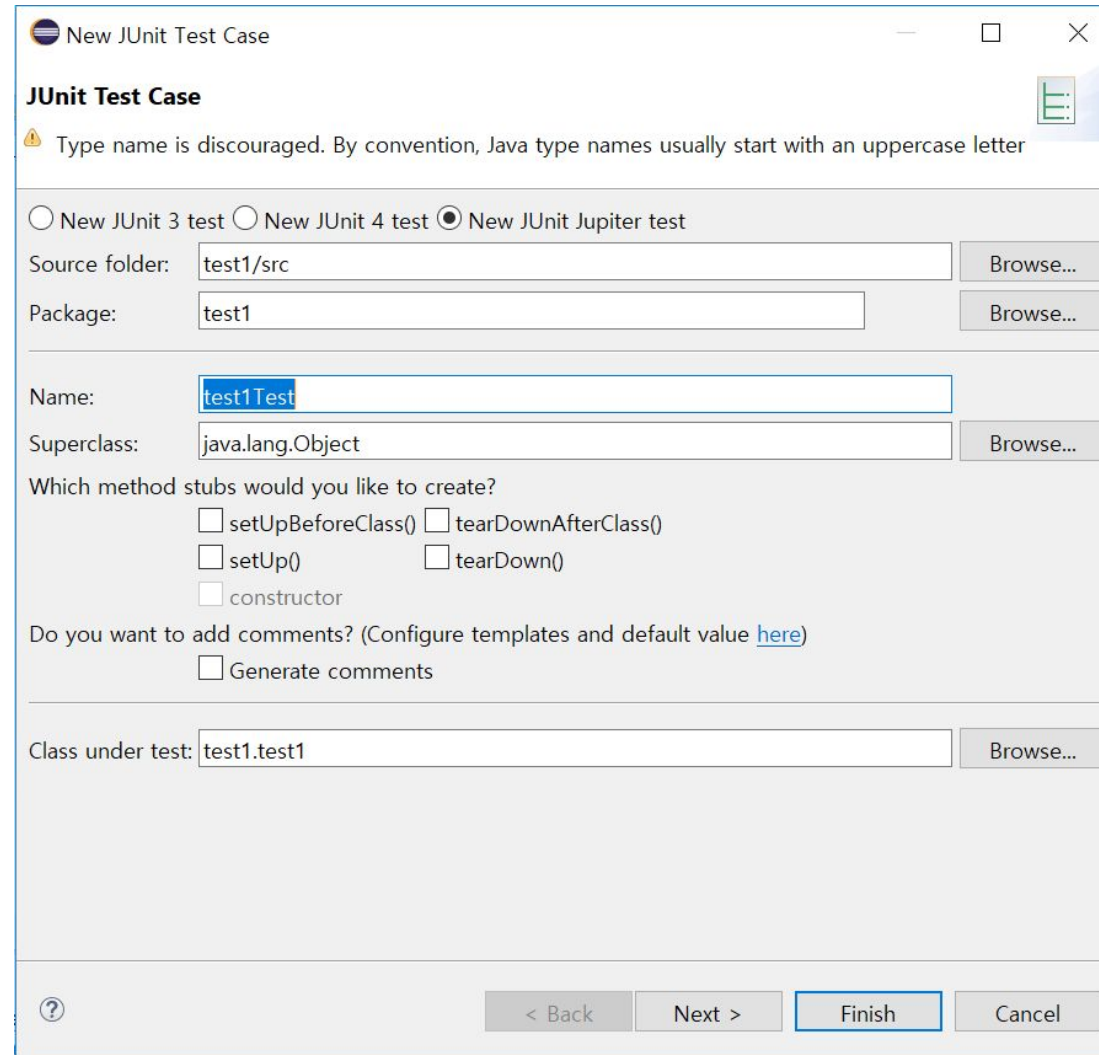
JUnit

테스트를 위한 Test Case 생성



JUnit

테스트를 위한 Test Case 생성



The screenshot shows the 'New JUnit Test Case' dialog box in Eclipse. The dialog has a title bar with the Eclipse logo and the text 'New JUnit Test Case'. Below the title bar, the text 'JUnit Test Case' is displayed. A warning icon and message state: 'Type name is discouraged. By convention, Java type names usually start with an uppercase letter'. There are three radio buttons for test types: 'New JUnit 3 test', 'New JUnit 4 test', and 'New JUnit Jupiter test', with the latter selected. The 'Source folder' is 'test1/src' and the 'Package' is 'test1'. The 'Name' is 'test1Test' and the 'Superclass' is 'java.lang.Object'. Under 'Which method stubs would you like to create?', there are checkboxes for 'setUpBeforeClass()', 'tearDownAfterClass()', 'setUp()', 'tearDown()', and 'constructor', all of which are currently unchecked. A checkbox for 'Do you want to add comments?' is also unchecked. The 'Class under test' is 'test1.test1'. At the bottom, there are buttons for '< Back', 'Next >', 'Finish', and 'Cancel'.

New JUnit Test Case

JUnit Test Case

Type name is discouraged. By convention, Java type names usually start with an uppercase letter

New JUnit 3 test New JUnit 4 test New JUnit Jupiter test

Source folder: test1/src

Package: test1

Name: test1Test

Superclass: java.lang.Object

Which method stubs would you like to create?

setUpBeforeClass() tearDownAfterClass()
 setUp() tearDown()
 constructor

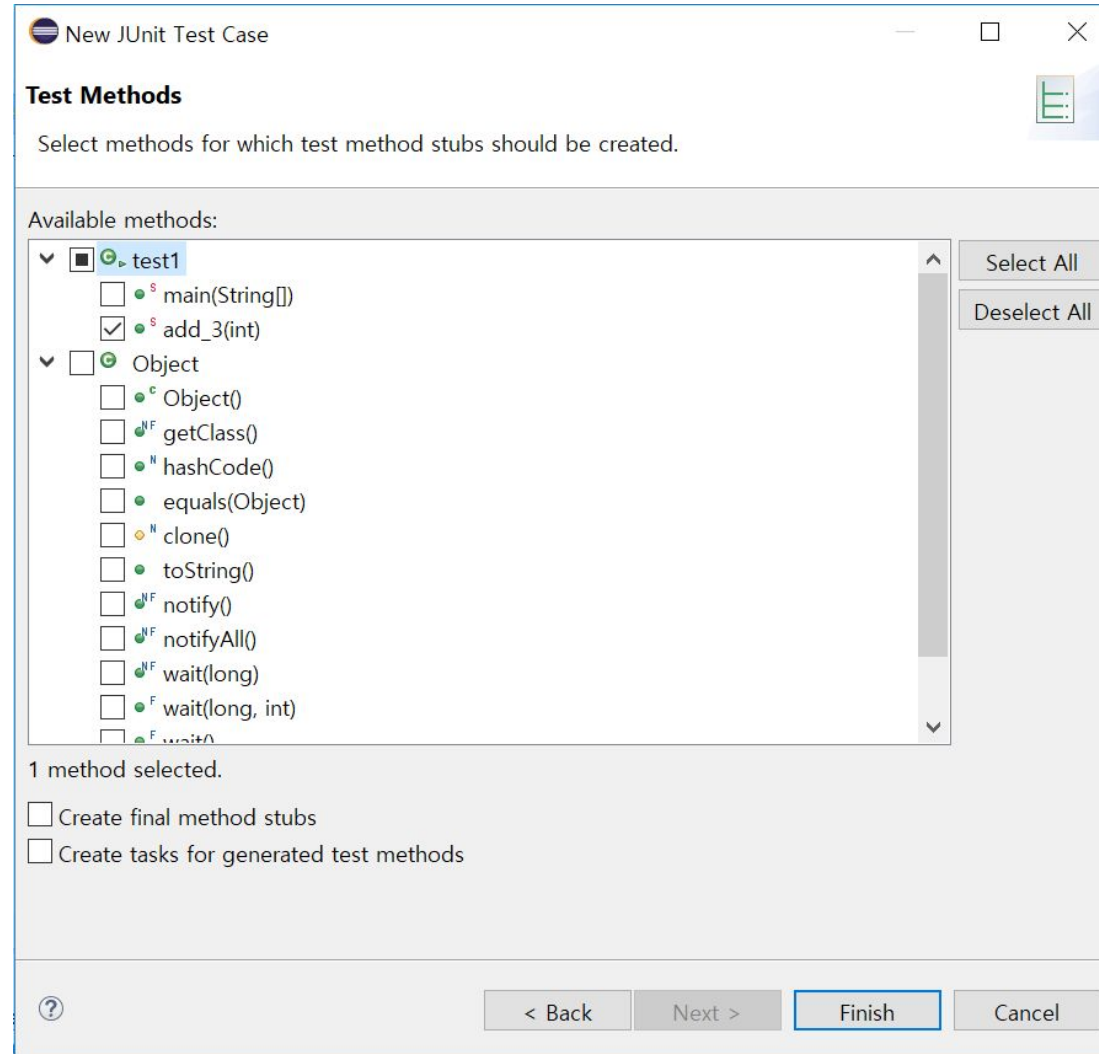
Do you want to add comments? (Configure templates and default value [here](#))

Generate comments

Class under test: test1.test1

JUnit

Test할 대상 선택



JUnit

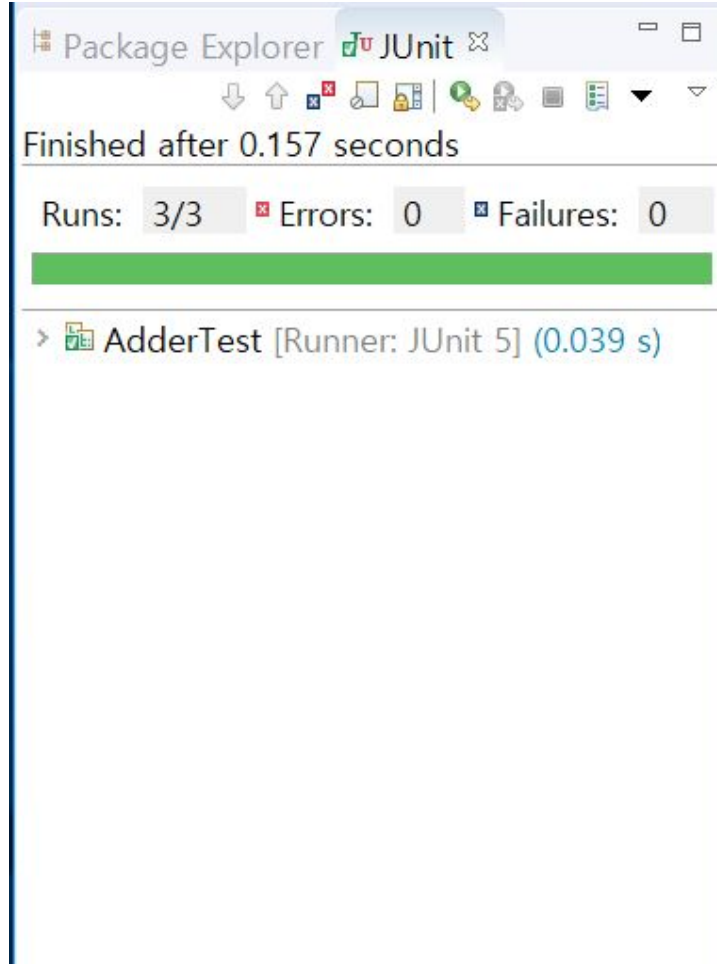
Test 대상(Adder)와 Test 코드 작성(AdderTest)

```
*Adder.java AdderTest.java
1 package Adder;
2
3 public class Adder {
4
5     public int Add_3(int num) {
6         int result = 0;
7
8         result = num + 3;
9
10        return result;
11    }
12
13    public int Add_5(int num) {
14        int result = 0;
15
16        result = num + 5;
17
18        return result;
19    }
20
21    public int Add_10(int num) {
22        int result = 0;
23
24        result = num + 10;
25
26        return result;
27    }
28 }
```

```
*Adder.java *AdderTest.java
1 package Adder;
2
3 import static org.junit.jupiter.api.Assertions.*;
4
5
6
7 class AdderTest {
8
9     @Test
10    void testAdd_3() {
11        Adder a = new Adder();
12        int result = a.Add_3(7);
13        assertEquals(10, result);
14    }
15
16    @Test
17    void testAdd_5() {
18        Adder a = new Adder();
19        int result = a.Add_5(5);
20        assertEquals(10, result);
21    }
22
23    @Test
24    void testAdd_10() {
25        Adder a = new Adder();
26        int result = a.Add_10(0);
27        assertEquals(10, result);
28    }
29
30 }
31 }
```


JUnit

테스트 결과 확인

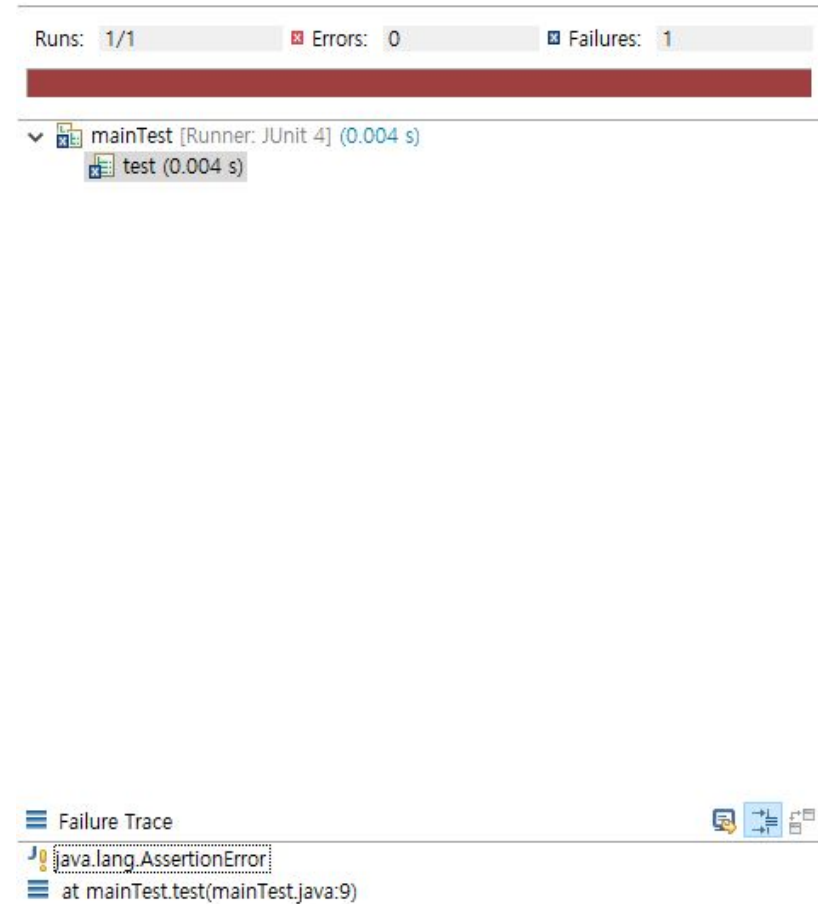


Package Explorer JUnit

Finished after 0.157 seconds

Runs: 3/3 Errors: 0 Failures: 0

> AdderTest [Runner: JUnit 5] (0.039 s)



Runs: 1/1 Errors: 0 Failures: 1

mainTest [Runner: JUnit 4] (0.004 s)

- test (0.004 s)

Failure Trace

```
java.lang.AssertionError
at mainTest.test(mainTest.java:9)
```

JUnit

`assertArrayEquals(a,b)`
`assertEquals(a,b)`
`assertSame(a,b)`
`assertTrue(a)`
`assertNotNull(a)`

배열의 값이 같은지 확인
값이 같은지 확인
같은 객체인지 확인
참인지 확인
null이 아닌지 확인



JUnit





JUnit



JUnit

@Before

```
public void SetUp() throws Exception {
```

```
}
```

@After

```
public void tearDown() throws Exception {
```

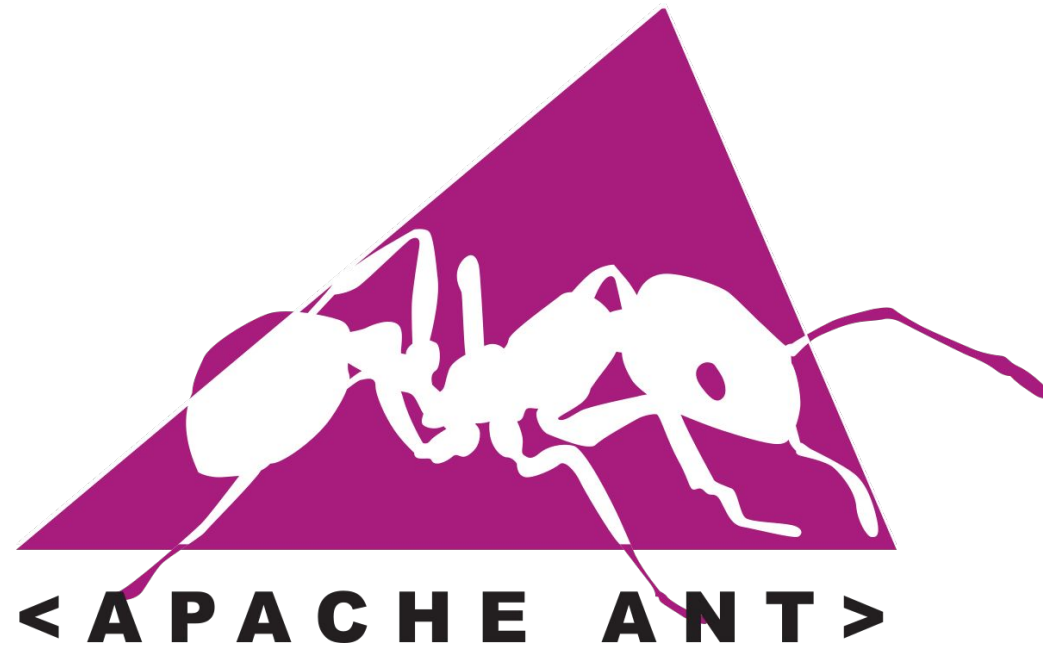
```
}
```

ANT

자바 언어에서 사용하는 자동화된 소프트웨어 빌드 도구

패키지 빌드 자동화, 배포

XML 문서(build.xml)로 빌드 규칙을 작성



ANT

다운로드 링크 :

<https://ant.apache.org/bindownloads.cgi>

Current Release of Ant

The Apache Ant team currently maintains two lines of development. The 1.9.x releases require Java5 at run runtime. Both lines are based off of Ant 1.9.7 and the 1.9.x releases are mostly bug fix releases while addit 1.10.x. We recommend using 1.10.x unless you are required to use versions of Java prior to Java8 during tl

Currently, Apache Ant 1.9.10 and 1.10.2 are the best available versions, see the [release notes](#).

Note

Ant 1.9.10 and 1.10.2 have been released on 06-Feb-2018 and may not be available on all mirrors for a few days.

Tar files may require gnu tar to extract

Tar files in the distribution contain long file names, and may require gnu tar to do the extraction.

- **1.10.2** .zip archive: [apache-ant-1.10.2-bin.zip](#) [PGP] [SHA1] [SHA512] [MD5]
- **1.9.10** .zip archive: [apache-ant-1.9.10-bin.zip](#) [PGP] [SHA1] [SHA512] [MD5]
- **1.10.2** .tar.gz archive: [apache-ant-1.10.2-bin.tar.gz](#) [PGP] [SHA1] [SHA512] [MD5]
- **1.9.10** .tar.gz archive: [apache-ant-1.9.10-bin.tar.gz](#) [PGP] [SHA1] [SHA512] [MD5]
- **1.10.2** .tar.bz2 archive: [apache-ant-1.10.2-bin.tar.bz2](#) [PGP] [SHA1] [SHA512] [MD5]
- **1.9.10** .tar.bz2 archive: [apache-ant-1.9.10-bin.tar.bz2](#) [PGP] [SHA1] [SHA512] [MD5]
- **1.10.2** .tar.xz archive: [apache-ant-1.10.2-bin.tar.xz](#) [PGP] [SHA1] [SHA512] [MD5]

ANT

Build Test를 위한 Code 작성

```
build.xml  OpenApp.java  PrintOut.java ✕
1 package test2;
2
3 public class PrintOut {
4     public void printMSG(String MSG) {
5         System.out.println("Hello" + MSG + "!");
6     }
7 }
8
```

```
build.xml  OpenApp.java ✕  PrintOut.java
1 package test2;
2
3 public class OpenApp {
4
5     public static void main(String[] args) {
6         // TODO Auto-generated method stub
7         PrintOut Pout = new PrintOut();
8
9         Pout.printMSG("Spring");
10    }
11
12 }
13
```

ANT

Build Test를 위한 XML 작성

```
build.xml OpenApp.java PrintOut.java
1 <project name = "test" basedir = ".">
2   <description>
3     Ant test
4   </description>
5 <property name = "src" location = "src"/>
6 <property name = "build" location = "build"/>
7
8 <target name = "init" description = "초기화 영역입니다.">
9   <delete dir = "${build}"/>
10  <mkdir dir = "${build}"/>
11 </target>
12
13 <target name = "compile" depends = "init" description = "컴파일하는 영역입니다.">
14   <javac destdir = "${build}" debug = "on">
15     <src path = "${src}"/>
16   </javac>
17 </target>
18 </project>
```


ANT

Build Test

명령어 > ant compile

```
C:\Users\LG\workspace\test1>ant compile
Buildfile: C:\Users\LG\workspace\test1\build.xml

init:
  [mkdir] Created dir: C:\Users\LG\workspace\test1\build

compile:
  [javac] C:\Users\LG\workspace\test1\build.xml:14: warning: 'includeantruntime' was not set
ild.sysclasspath=last; set to false for repeatable builds
  [javac] Compiling 2 source files to C:\Users\LG\workspace\test1\build

BUILD SUCCESSFUL
Total time: 1 second
```



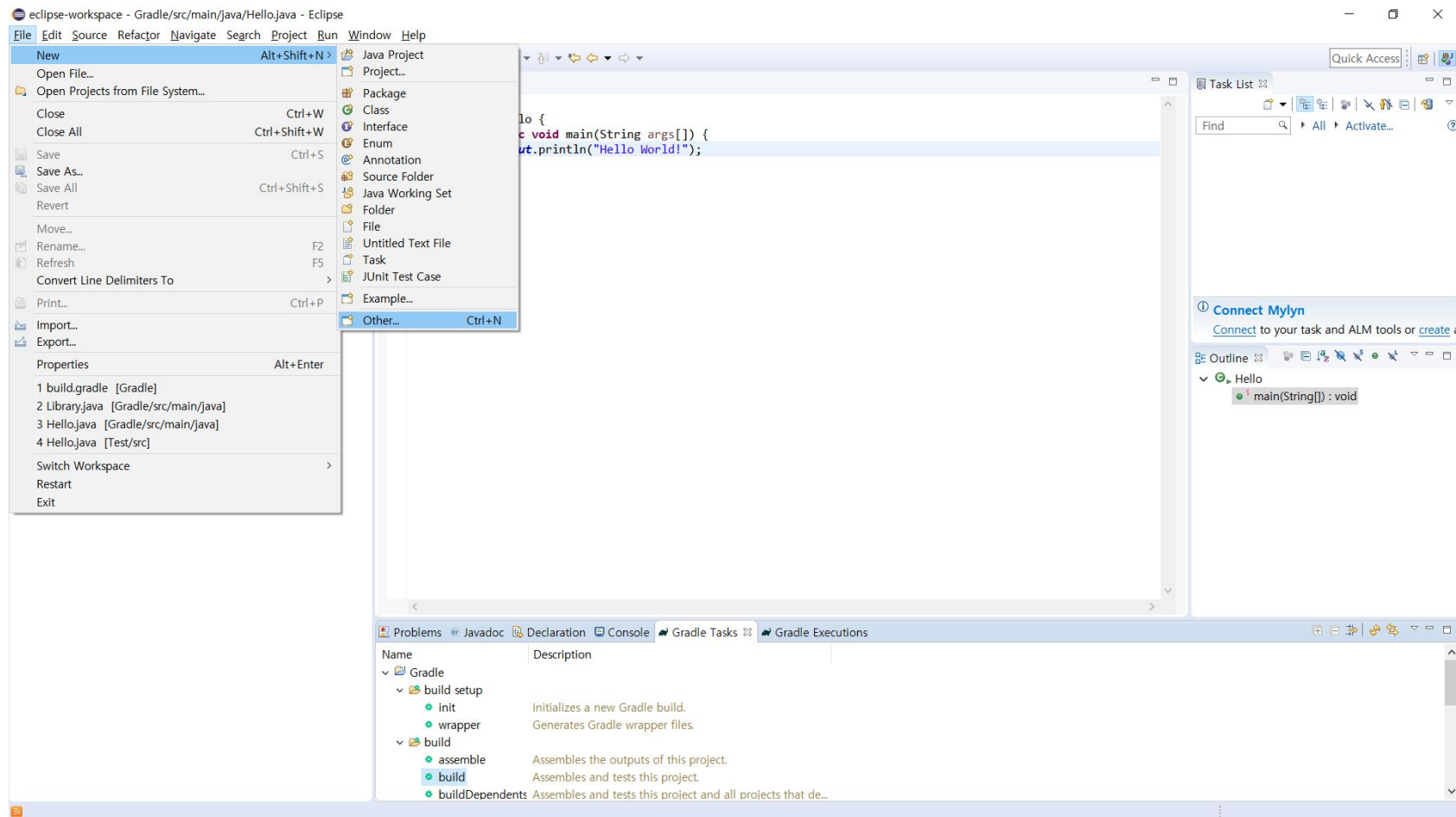
Gradle

빌드 자동화 툴
xml대신 groovy 사용으로 더 간단한 build setup
Maven, Ant 연동



Gradle

빌드 환경 설정



Gradle

빌드 환경 설정

The screenshot shows the Eclipse IDE interface with a Gradle project being set up. The Package Explorer on the left shows the project structure, including the 'src/main/java' directory with 'Hello.java' and 'Library.java', and the 'gradle' directory with 'build.gradle', 'gradlew', 'gradlew.bat', and 'settings.gradle'. The main editor shows the code for 'Hello.java':

```
1 public class Hello {
2
3     public static void main(String args[]) {
4         System.out.println("Hello World!");
5     }
6 }
7
```

A 'New' wizard dialog is open, titled 'Select a wizard'. It prompts the user to 'Create a new Gradle project.' The 'Wizards' list includes 'General', 'Git', 'Gradle', 'Java', 'Maven', and 'Oomph'. The 'Gradle' wizard is selected, and the 'Gradle Project' option is highlighted. The 'Next >' button is visible at the bottom of the dialog.

The bottom of the IDE shows the 'Gradle Tasks' and 'Gradle Executions' views. The 'Gradle Tasks' view lists the following tasks:

Name	Description
Gradle	
build setup	
init	Initializes a new Gradle build.
wrapper	Generates Gradle wrapper files.
build	
assemble	Assembles the outputs of this project.
build	Assembles and tests this project.
buildDependents	Assembles and tests this project and all projects that de...

Gradle

빌드 환경 설정

The screenshot displays the Eclipse IDE interface with the 'New Gradle Project' dialog box open. The dialog box contains the following fields and options:

- Project name:** Hello
- Project location:** Use default location
- Location:** C:\Users\#nyoon#\eclipse-workspace
- Working sets:** Add project to working sets

At the bottom of the dialog, there are buttons for '< Back', 'Next >', 'Finish', and 'Cancel'. Below the dialog, the 'Problems @ Javadoc' view is visible, showing a list of tasks:

- Gradle
 - build setup
 - init: Initializes a new Gradle build.
 - wrapper: Generates Gradle wrapper files.
 - build
 - assemble: Assembles the outputs of this project.
 - build: Assembles and tests this project.
 - buildDependents: Assembles and tests this project and all projects that de...

Gradle

빌드 환경 설정

The screenshot shows the Eclipse IDE interface with the following components:

- Package Explorer:** Shows a project named 'Hello' with a 'src' folder containing 'main/java' and 'test/java' subfolders. The 'build.gradle' file is selected under the 'src' folder.
- Editor:** Displays the content of 'build.gradle' with the following code:

```
1/*
2 * This build file was generated by the Gradle 'init' task.
3 *
4 * This generated file contains a sample Java Library project to get you started.
5 * For more details take a look at the Java Libraries chapter in the Gradle
6 * user guide available at https://docs.gradle.org/3.5/userguide/java_library_plugin.html
7 */
8
9// Apply the java-library plugin to add support for Java Library
10apply plugin: 'java-library'
11
12// In this section you declare where to find the dependencies of your project
13repositories {
14    // Use jcenter for resolving your dependencies.
15    // You can declare any Maven/Ivy/file repository here.
16    jcenter()
17}
18
19dependencies {
20    // This dependency is exported to consumers, that is to say found on their compile classpath.
21    api 'org.apache.commons:commons-math3:3.6.1'
22
23    // This dependency is used internally, and not exposed to consumers on their own compile classpath.
24    implementation 'com.google.guava:guava:21.0'
25
26    // Use JUnit test framework
27    testImplementation 'junit:junit:4.12'
28}
29
30
```
- Task List:** Shows a 'Connect Mylyn' button and a message: 'An outline is not available.'
- Bottom Panel:** Shows 'Problems', 'Javadoc', 'Declaration', 'Console', 'Gradle Tasks', and 'Gradle Executions'. The 'Gradle Tasks' tab is active, showing a table with columns 'Name' and 'Description'. The table contains one entry: 'Hello' with a 'Gradle' sub-entry.

Gradle - 구조

gradle/wrapper
gradlew
gradlew.bat
build.gradle
settings.gradle

Gradle



Gradle wrapper

작업 환경 혹은 gradle 설치 여부와 상관없이 빌드가능

ex : `./gradlew`
`gradlew.bat`

Gradle - build.gradle

```
version '1.0-SNAPSHOT'  
apply plugin: 'java-library'  
sourceCompatibility = 1.8
```

```
repositories {  
    jcenter()  
}
```

```
dependencies {  
    testCompile group: 'junit', name: 'junit', version: '4.12'  
}
```

Gradle - build.gradle

```
task hello {  
    doLast {  
        println 'task Hello'  
    }  
}
```

```
task copyFile (type: Copy) {  
    from 'src/main/java'  
    into 'testfile/java'  
}
```

```
defaultTasks 'hello', 'copyFile'
```

Gradle - task

Name	Description
▼ GradleTest	
> build setup	
▼ build	
⚙ assemble	Assembles the outputs of this project.
⚙ build	Assembles and tests this project.
⚙ buildDependents	Assembles and tests this project and all projects that depend on it.
⚙ buildNeeded	Assembles and tests this project and all projects it depends on.
⚙ classes	Assembles main classes.
⚙ clean	Deletes the build directory.
⚙ jar	Assembles a jar archive containing the main classes.
⚙ testClasses	Assembles test classes.
> documentation	
> help	
> verification	



Eclipse



Jenkins

Jenkins

CI(연속적 통합) 도구, 빌드, 배포 등 반복되는 작업을 모니터링하는 도구

쉬운 설치와 웹 기반의 UI, 여러 프로젝트 동시 빌드가 특징

주요 기능 : 지속적인 자동화 빌드/테스트, 자동화 배포 관리



Jenkins



Eclipse

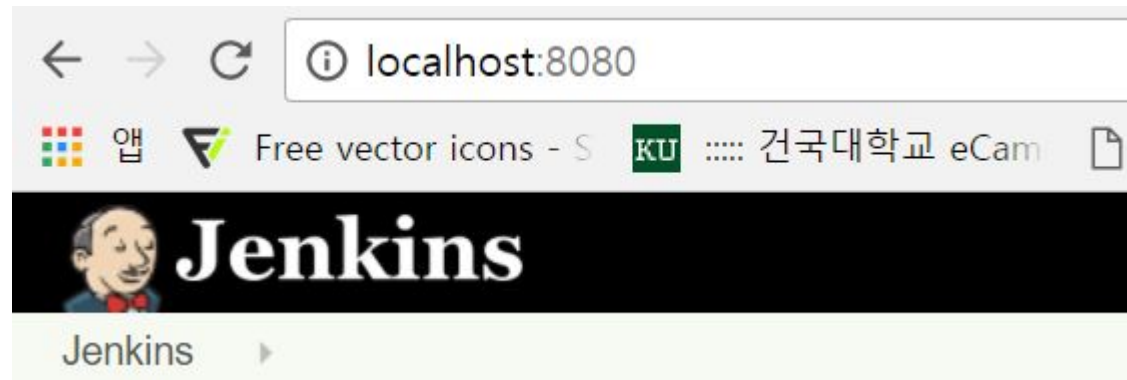


Jenkins

Jenkins

다운로드 링크 :

<https://jenkins.io/download/>





Eclipse



Jenkins

Jenkins



Jenkins가 준비 될 때까지 기다려주세요...

Jenkins가 준비 되면 자동 리로딩 합니다.



Eclipse



Jenkins

Jenkins

Getting Started

Unlock Jenkins

To ensure Jenkins is securely set up by the administrator, a password has been written to the log (not sure where to find it?) and this file on the server:

```
C:\Program Files (x86)\Jenkins\secrets\initialAdminPassword
```

Please copy the password from either location and paste it below.

Administrator password



Continue



Eclipse



Jenkins

Jenkins

The screenshot shows the 'Getting Started' window in Jenkins. The main heading is 'Customize Jenkins'. Below it, a subtitle reads 'Plugins extend Jenkins with additional features to support many different needs.' There are two main options presented in boxes: 'Install suggested plugins' (highlighted in blue) and 'Select plugins to install'. The 'Install suggested plugins' box contains the text 'Install plugins the Jenkins community finds most useful.' The 'Select plugins to install' box contains the text 'Select and install plugins most suitable for your needs.' At the bottom left of the window, the version 'Jenkins 2.107.1' is displayed. A faint background image of a hand holding a hard hat is visible in the lower right area of the window.

Getting Started

Customize Jenkins

Plugins extend Jenkins with additional features to support many different needs.

Install suggested plugins

Install plugins the Jenkins community finds most useful.

Select plugins to install

Select and install plugins most suitable for your needs.

Jenkins 2.107.1

Jenkins

Getting Started

Getting Started

🔗 Folders	🔗 OWASP Markup Formatter	🔗 Build Timeout	🔗 Credentials Binding	** Script Security ** Command Agent Launcher
🔗 Timestampers	🔗 Workspace Cleanup	🔗 Ant	🔗 Gradle	Folders
🔗 Pipeline	🔗 GitHub Branch Source	🔗 Pipeline: GitHub Groovy Libraries	🔗 Pipeline: Stage View	
🔗 Git	🔗 Subversion	🔗 SSH Slaves	🔗 Matrix Authorization Strategy	
🔗 PAM Authentication	🔗 LDAP	🔗 Email Extension	🔗 Mailer	

** - required dependency

Jenkins 2.107.1



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Jenkins



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Getting Started

Create First Admin User

계정명:

암호:

암호 확인:

이름:

이메일 주소:

Jenkins 2.107.1 [Continue as admin](#) [Save and Finish](#)



Eclipse




Jenkins

Jenkins

 새로운 Item

 사람

 빌드 기록

 Jenkins 관리

 My Views

 Credentials

 New View



Eclipse



Jenkins

Jenkins

Enter an item name

» *Required field*



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.



Eclipse



Jenkins

Jenkins

소스 코드 관리

- None
- Git

Repositories

Repository URL

Credentials

고급...

Add Repository

Branches to build

Branch Specifier (blank for 'any')

Add Branch



Eclipse



Jenkins

Jenkins



Jenkins Credentials Provider: Jenkins

Add Credentials

Domain

Kind

Scope

Username

Password

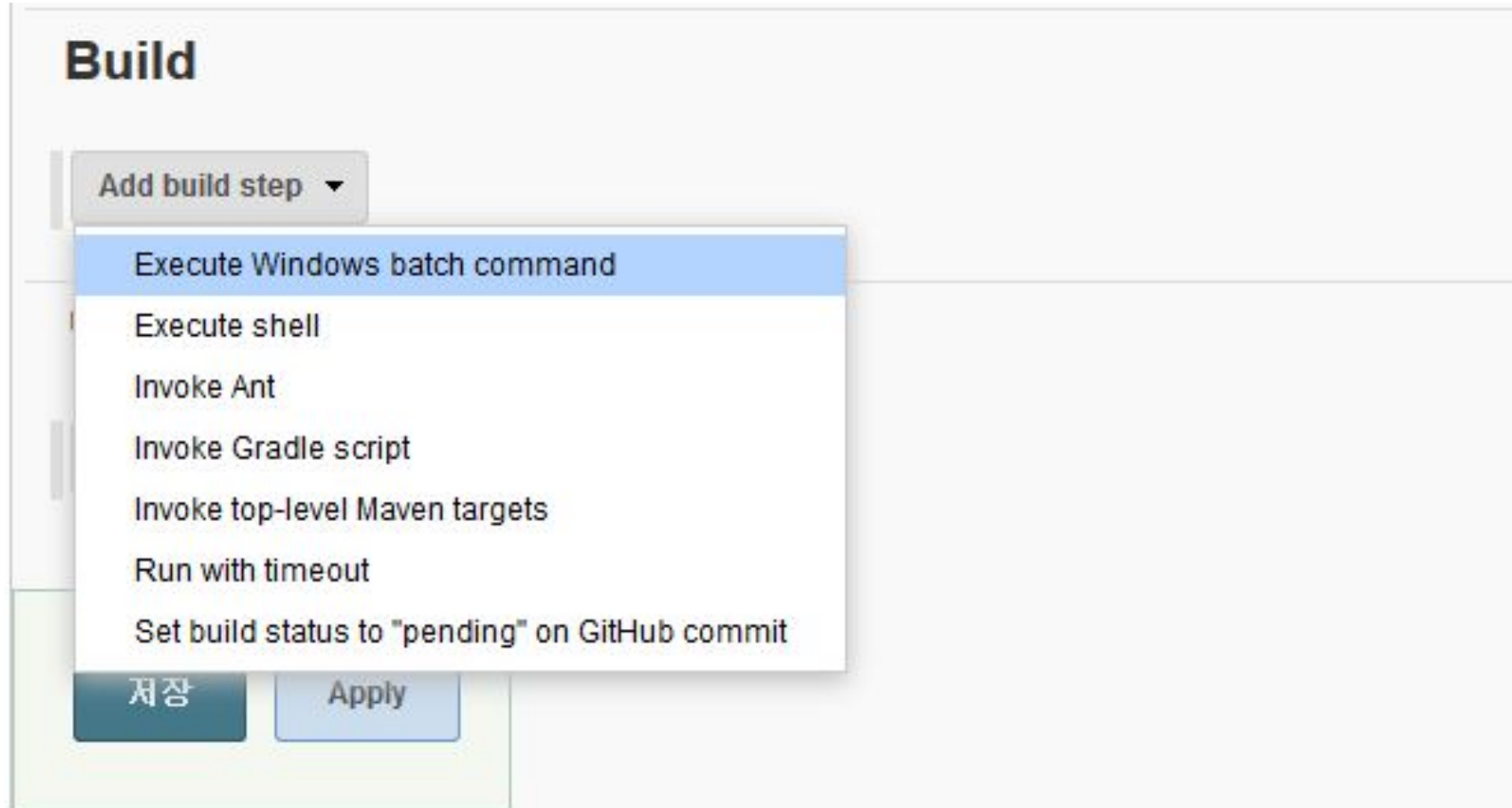
ID

Description

Add

Cancel

Jenkins



Eclipse



Jenkins



Eclipse



Jenkins

Jenkins

Build

Execute Windows batch command

Command `gradlew.bat`

See [the list of available environment variables](#)

Add build step ▾

고급...



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Jenkins

콘솔 출력

```
Started by GitHub push by SangHyeukYoon
Building in workspace C:\Program Files (x86)\Jenkins\workspace\Test
> C:\Program Files\Git\cmd\git.exe rev-parse --is-inside-work-tree # timeout=10
Fetching changes from the remote Git repository
> C:\Program Files\Git\cmd\git.exe config remote.origin.url https://github.com/SangHyeukYoon/Test2.git # timeout=10
Fetching upstream changes from https://github.com/SangHyeukYoon/Test2.git
> C:\Program Files\Git\cmd\git.exe --version # timeout=10
using GIT_ASKPASS to set credentials
> C:\Program Files\Git\cmd\git.exe fetch --tags --progress https://github.com/SangHyeukYoon/Test2.git +refs/heads/*:refs/remotes/origin/*
> C:\Program Files\Git\cmd\git.exe rev-parse "refs/remotes/origin/master^{commit}" # timeout=10
> C:\Program Files\Git\cmd\git.exe rev-parse "refs/remotes/origin/origin/master^{commit}" # timeout=10
Checking out Revision da56489c08e5113fc050647286d7f592c4dec4b7 (refs/remotes/origin/master)
> C:\Program Files\Git\cmd\git.exe config core.sparsecheckout # timeout=10
> C:\Program Files\Git\cmd\git.exe checkout -f da56489c08e5113fc050647286d7f592c4dec4b7
Commit message: "Add Test"
> C:\Program Files\Git\cmd\git.exe rev-list --no-walk 758c8ab28da8d19b746d84dfe70d6857825f35ee # timeout=10
[Test] $ cmd /c call C:\Windows\TEMP\jenkins2498276238643978174.bat
```

```
C:\Program Files (x86)\Jenkins\workspace\Test>gradlew.bat
:help
```

Welcome to Gradle 4.0.

To run a build, run gradlew <task> ...

To see a list of available tasks, run gradlew tasks

To see a list of command-line options, run gradlew --help

To see more detail about a task, run gradlew help --task <task>

```
BUILD SUCCESSFUL in 1s
1 actionable task: 1 executed
Finished: SUCCESS
```



Eclipse



Jenkins

Jenkins - git trigger

다운로드 링크 :

<https://www.eclipse.org/downloads/>

빌드 유발

- 빌드를 원격으로 유발 (예: 스크립트 사용)
- Build after other projects are built
- Build periodically
- GitHub hook trigger for GITScm polling
- Poll SCM



Eclipse



Jenkins

Jenkins - ngrok

다운로드 링크 :

<https://ngrok.com/download>

외부에서 로컬로 접속

```
C:\Users\#nyoon#Downloads#ngrok-stable-windows-amd64#ngrok.exe
Open http://localhost:4040 for ngrok's web interface to inspect traffic.

EXAMPLES:
ngrok http 80 # secure public URL for port 80 web server
ngrok http -subdomain=baz 8080 # port 8080 available at baz.ngrok.io
ngrok http foo.dev:80 # tunnel to host:port instead of localhost
ngrok tcp 22 # tunnel arbitrary TCP traffic to port 22
ngrok tls -hostname=foo.com 443 # TLS traffic for foo.com to port 443
ngrok start foo bar baz # start tunnels from the configuration file

VERSION:
2.2.8

AUTHOR:
inconshreveable - <alan@ngrok.com>

COMMANDS:
authtoken save authtoken to configuration file
credits prints author and licensing information
http start an HTTP tunnel
start start tunnels by name from the configuration file
tcp start a TCP tunnel
tls start a TLS tunnel
update update ngrok to the latest version
version print the version string
help Shows a list of commands or help for one command

ngrok is a command line application, try typing 'ngrok.exe http 80'
at this terminal prompt to expose port 80.
C:\Users\#nyoon#Downloads#ngrok-stable-windows-amd64>
```



Eclipse



Jenkins

Jenkins - ngrok

다운로드 링크 :

<https://ngrok.com/download>

ngrok http 8080

```
C:\Users#nyoon#Downloads#ngrok-stable-windows-amd64#ngrok.exe - ngrok http 8080
ngrok by @inconshreveable (Ctrl+C to quit)

Session Status      online
Session Expires    7 hours, 59 minutes
Version             2.2.8
Region              United States (us)
Web Interface       http://127.0.0.1:4040
Forwarding           http://0da614aa.ngrok.io -> localhost:8080
                    https://0da614aa.ngrok.io -> localhost:8080

Connections        ttl     opn     rt1     rt5     p50     p90
                   0       0       0.00    0.00    0.00    0.00
```

Jenkins - git trigger

- Eclipse
- Jenkins

This screenshot shows the GitHub repository settings for 'SangHyeukYoon / Test2'. The 'Integrations & services' tab is selected, and the 'Services' section is expanded. The 'Available Services' dropdown menu is open, showing a search input with 'je' and a list of services including 'Jenkins (Git plugin)', 'Jabber', 'Trajectory', 'ZohoProjects', 'SkyDeskProjects', and 'DjangoPackages'. The 'Jenkins (Git plugin)' service is highlighted in blue. The page also shows the repository name, search bar, navigation links (Pull requests, Issues, Marketplace, Explore), and repository statistics (Watch, Star, Fork).



Eclipse



Jenkins

Jenkins - git trigger

Options

Collaborators

Branches

Webhooks

Integrations & services

Deploy keys

Services / Add Jenkins (Git plugin)

Install Notes

- Requires [Git Plugin v1.1.18](#), released 2012-04-27, and the "Poll SCM" build trigger needs to be enabled. (Though you can have it poll very infrequently, I recommend something like `0 */3 * * *`)
- "Jenkins Url" is the base URL of your [Jenkins](#) server. For example: `http://ci.jenkins-ci.org/`. We will hit `/git/notifycommit` under this URL. (See [the Git plugin wiki page](#) for more details.)

Details

[Jenkins](#) is a popular continuous integration server.

If you're using the standard [Jenkins Git plugin](#) to poll & check out your repository, you can quickly and easily switch to a push model using this service.

It will send a request to your Jenkins instance telling it about the repositories and branches that changed. Jenkins will then poll the repository and build if needed. See [push notification from repository](#) on the Jenkins wiki for information.

Jenkins url

`http://ddabbb9c.ngrok.io/github-webhook/`

Active

We will run this service when an event is triggered.

Add service