

Java

프로그래밍 언어

Java의 역사

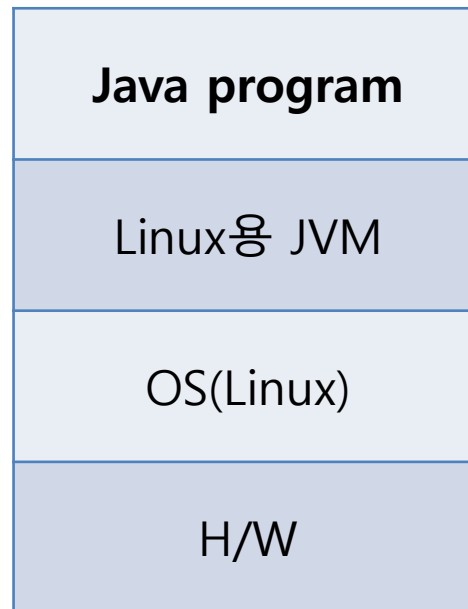
- Sun Microsystems. Inc.의 제임스 고슬링 & 아서 밴 호프등의 엔지니어들에 의해서 만들어진 프로그래밍 언어.
- 1991년 개발 시작 : Oak라는 언어에서 시작
=> 가전제품, 소형기기(PDA).
- 1996년 Java 1.0 버전 발표.
=> 운영체제에 독립적인 Oak를 인터넷에 적합하도록 개발 방향을 바꿈.
- Sun은 Oracle에 합병됨.

JAVA 언어의 특징

- 객체지향(Object-Oriented Programming) 언어.
- C / C++에서 유래.
- 운영체제(Windows/Linux/MAC)에 독립적임(JVM).
- 분산 / 네트워크 / 웹 / 모바일 개발 환경에 유리.
- 자동 메모리 관리.

Java 플랫폼















- Java 개발 환경은 운영체제 위에 Java 가상 머신(JVM) 안에서 실행



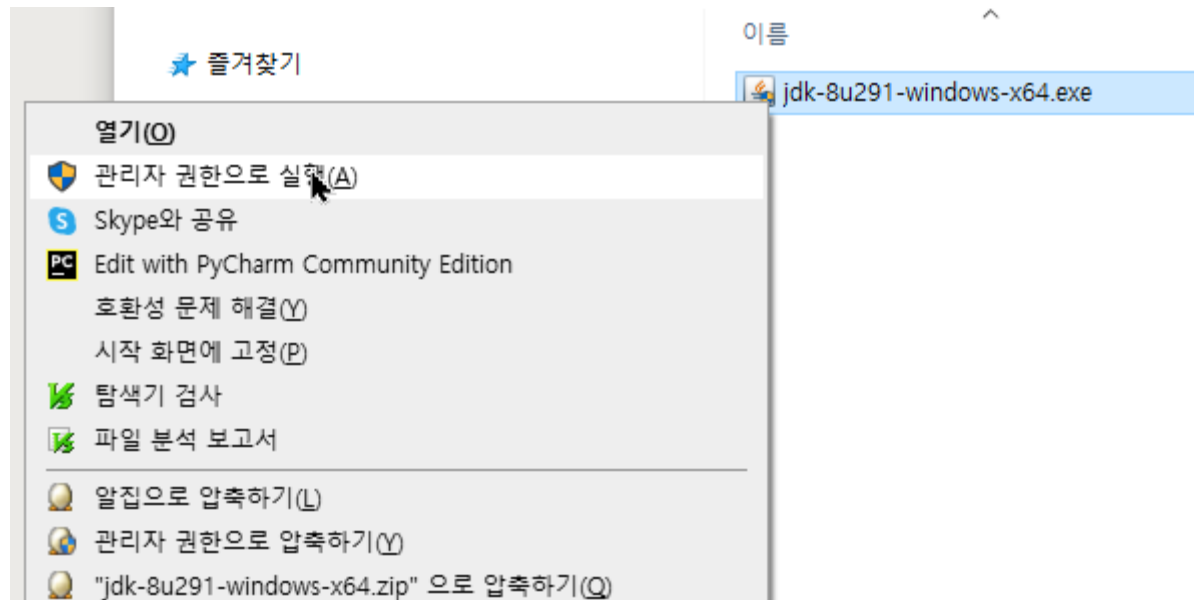
Java 개발 환경

- JDK(자바 엔진) 다운로드
 - <https://www.oracle.com/java/technologies/javase/javase-jdk8-downloads.html>
 - Java SE Development Kit Downloads
 - JDK 설치 및 환경변수 설정
- Eclipse(개발도구), EditPlus, UltraEditor, ...
 - <https://www.eclipse.org>

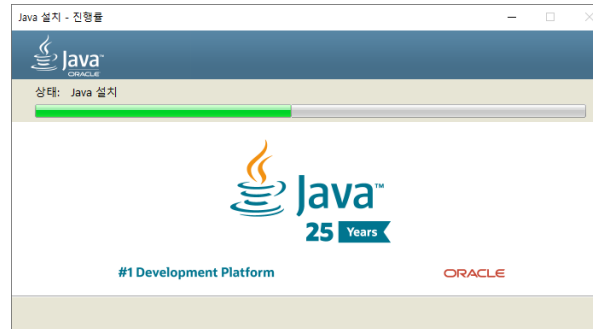
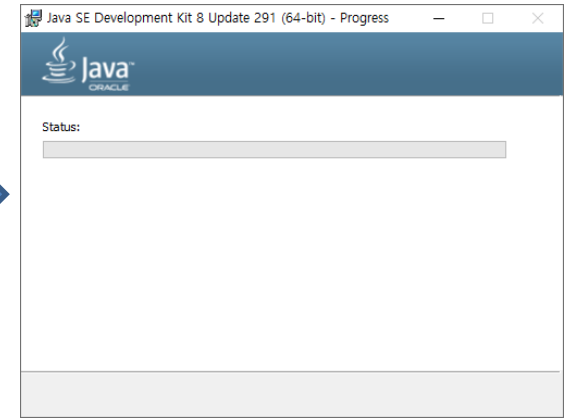
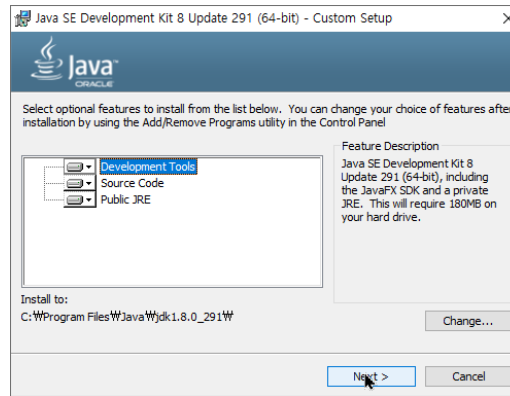
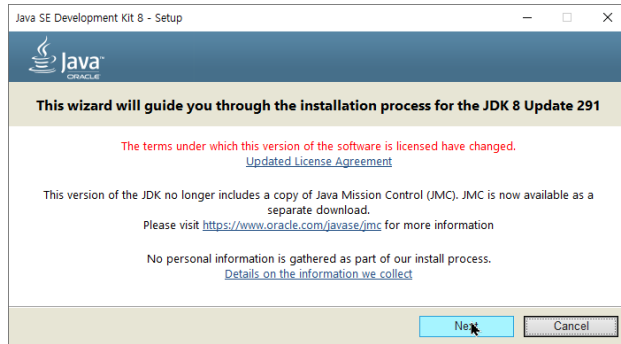
Java 개발 환경

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Java SE Development Kit 8u291		
This software is licensed under the Oracle Technology Network License Agreement for Oracle Java SE		
Product / File Description	File Size	Download
Linux ARM 64 RPM Package	59.1 MB	 jdk-8u291-linux-aarch64.rpm
Linux ARM 64 Compressed Archive	70.79 MB	 jdk-8u291-linux-aarch64.tar.gz
Linux ARM 32 Hard Float ABI	73.5 MB	 jdk-8u291-linux-arm32-vfp-hflt.tar.gz
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Solaris SPARC 64-bit	94.74 MB	 jdk-8u291-solaris-sparcv9.tar.gz
Solaris x64 (SVR4 package)	134.48 MB	 jdk-8u291-solaris-x64.tar.Z
Solaris x64	92.56 MB	 jdk-8u291-solaris-x64.tar.gz
Windows x86	155.67 MB	 jdk-8u291-windows-i586.exe
Windows x64	168.67 MB	 jdk-8u291-windows-x64.exe

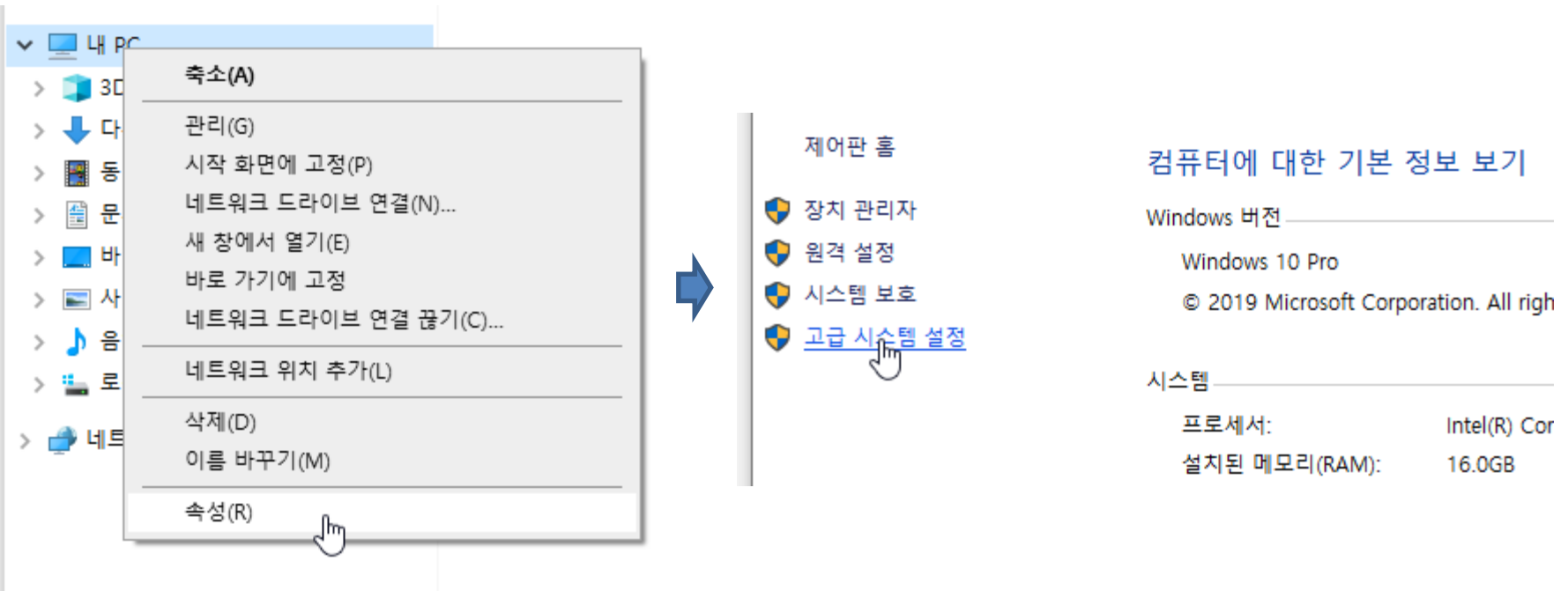
Java 개발 환경



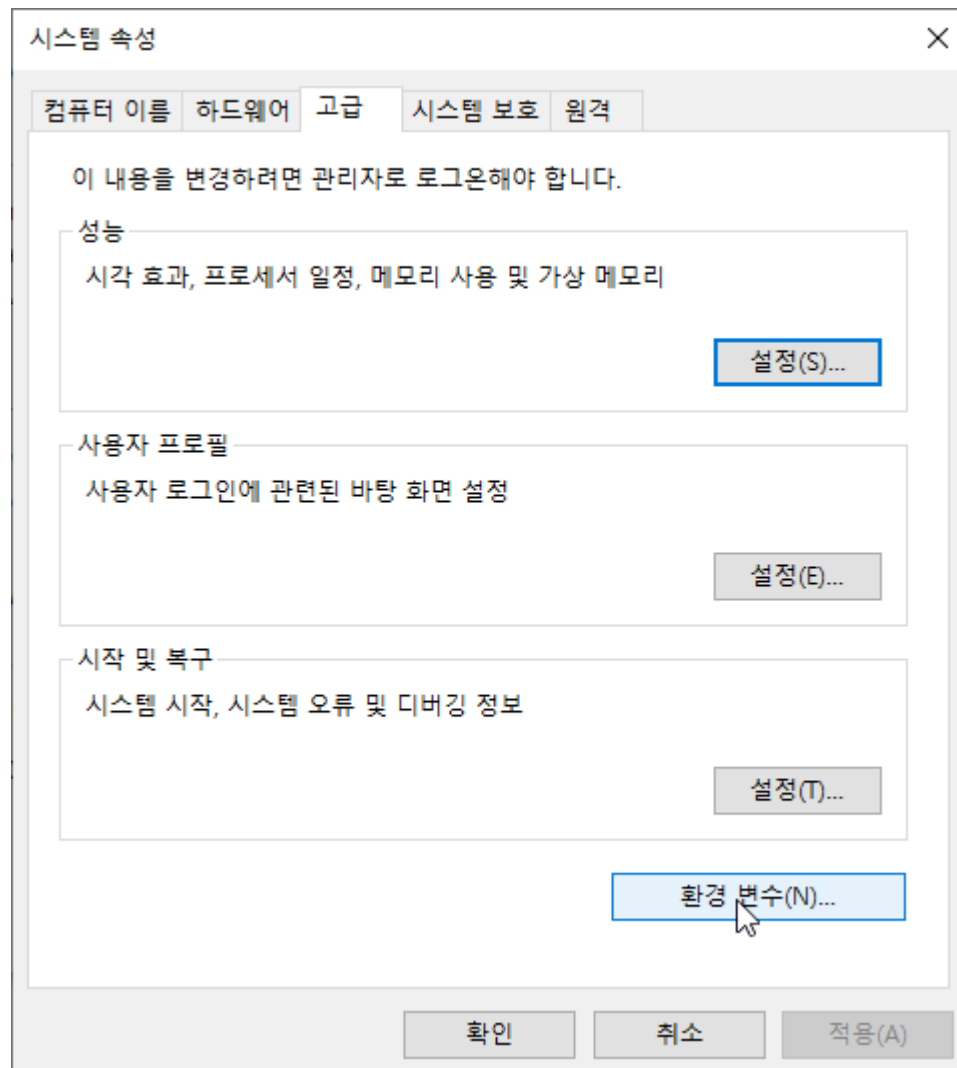
Java 개발 환경



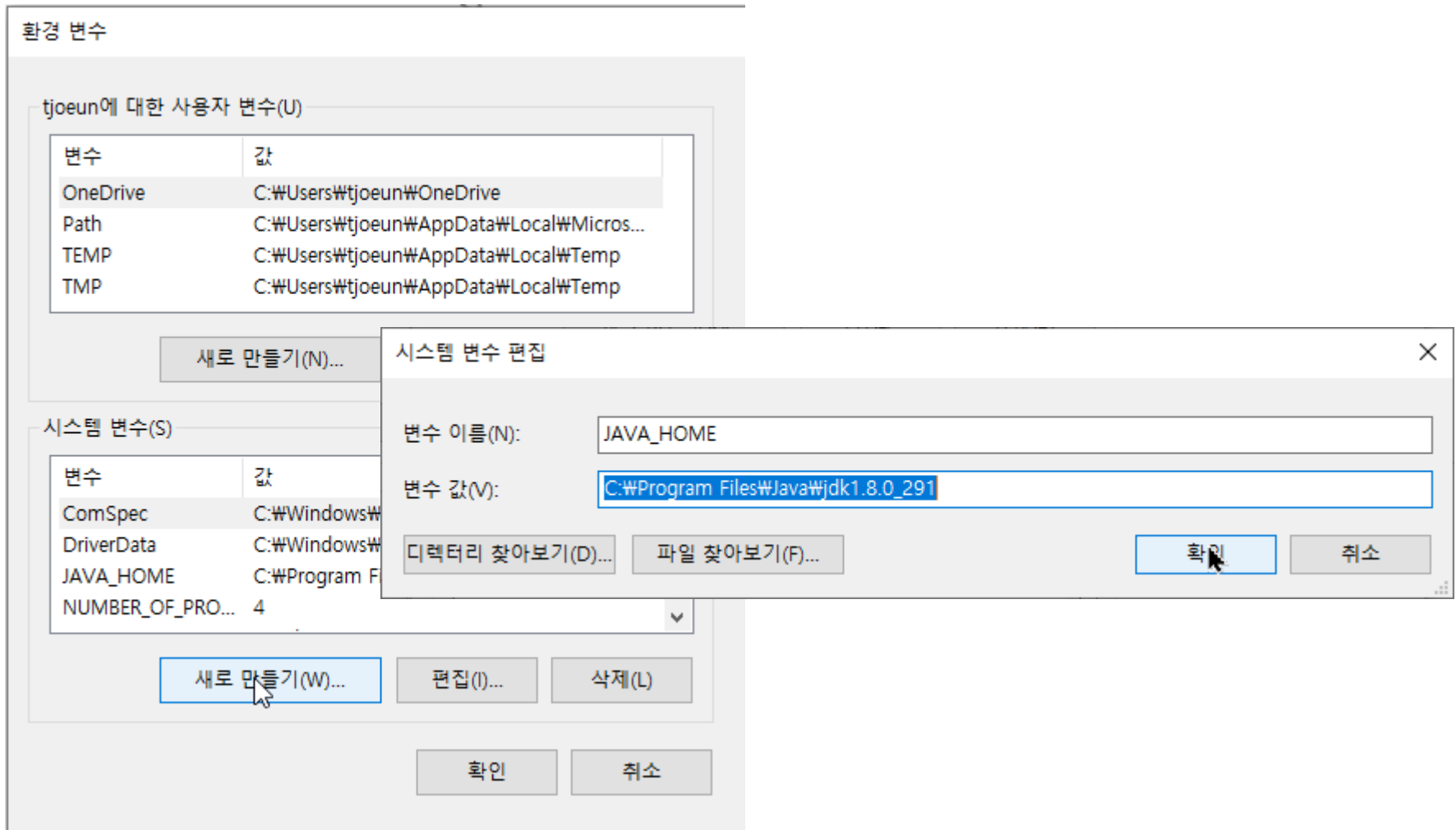
환경 설정 변수 셋팅



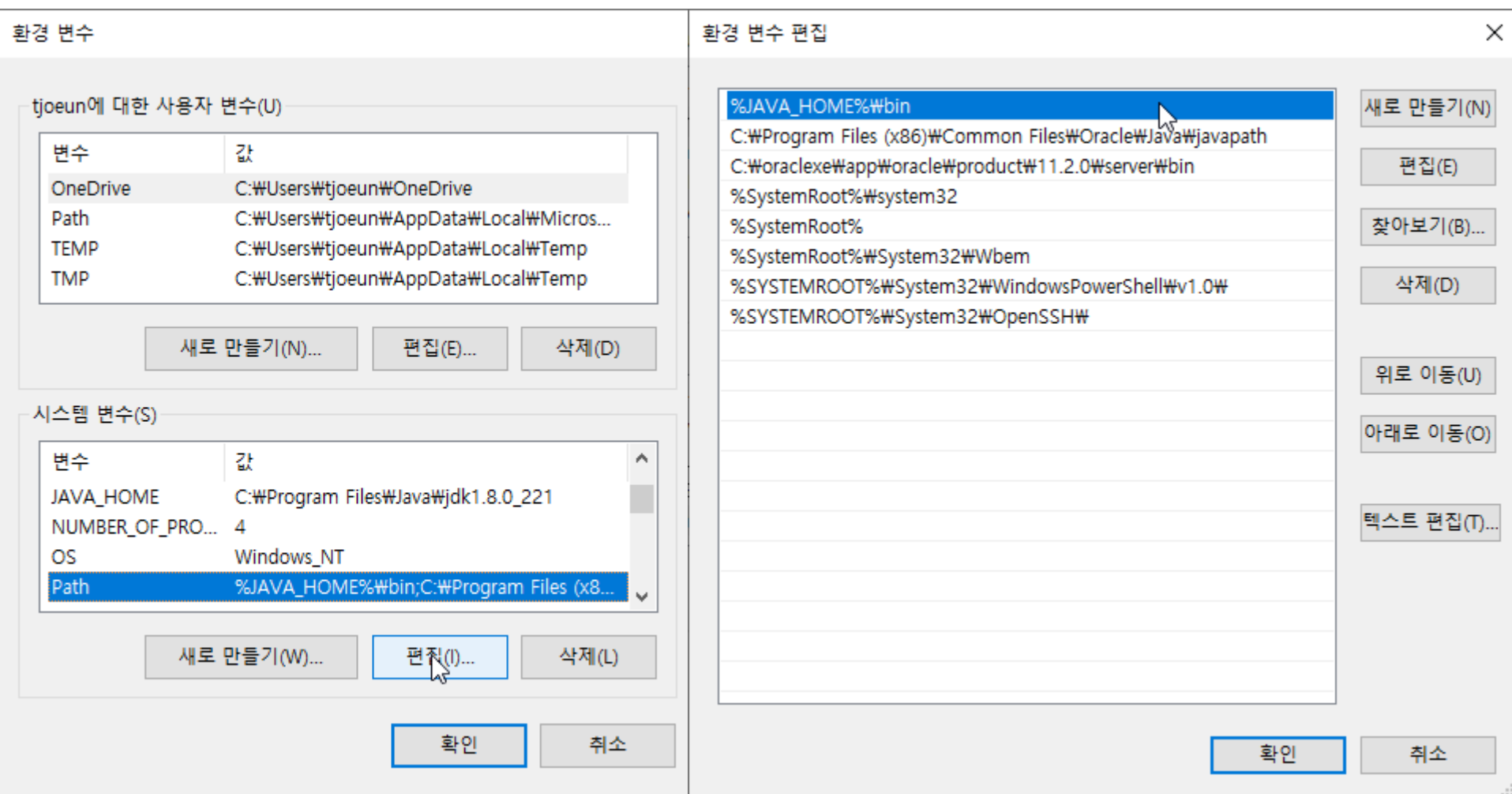
환경 설정 변수 셋팅



환경 설정 변수 셋팅



환경 설정 변수 셋팅



Java 프로그램의 구조

```
class HelloWorld {  
    public static void main(String[] args) {  
        System.out.println("Hello, World!");  
    }  
}
```

Java 프로그램 실행(compile) 과정

- C:\Program Files\Java\jdk1.8.0_xxx\bin

소스 파일(코드 작성 : *.java)



javac.exe

Class 파일 생성(*.class)



java.exe

실행 파일

Eclipse 환경 설정

Eclipse 설치

– <https://www.eclipse.org>

The screenshot shows the Eclipse Foundation website. At the top left is the Eclipse Foundation logo. To its right is a navigation menu with links for 'Projects', 'Working Groups', 'Members', and 'More'. A red rectangle highlights a 'Download' button with a download icon, located next to the 'More' link. Above this button are links for 'Log in' and 'Manage Cookies'. The main heading reads 'The Community for Open Innovation and Collaboration'. Below this is a paragraph: 'The Eclipse Foundation provides our global community of individuals and organizations with a mature, scalable, and business-friendly environment for open source software collaboration and innovation.' Underneath the paragraph are four orange buttons: 'Discover Projects' (with a magnifying glass icon), 'Working Groups' (with a network icon), 'Members' (with a group of people icon), and 'Business Value' (with a briefcase icon). Below the buttons is a sponsored advertisement for Sirius, titled 'Aloxy Leverages Eclipse Foundation Membership to Build its Petro-Chemical Business'. The ad text says 'Learn how Aloxy improves their commercial software tools by leveraging open source technologies hosted at the Eclipse Foundation in our new member case study!' and includes a 'DOWNLOAD NOW' button. At the bottom of the page is a cookie consent banner with 'Decline' and 'Allow' buttons.

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Click [here](#) to file a bug against Eclipse Platform.

Click [here](#) to file a bug against Maven integration for web projects.

Click [here](#) to report an issue against Eclipse Wild Web Developer (incubating).



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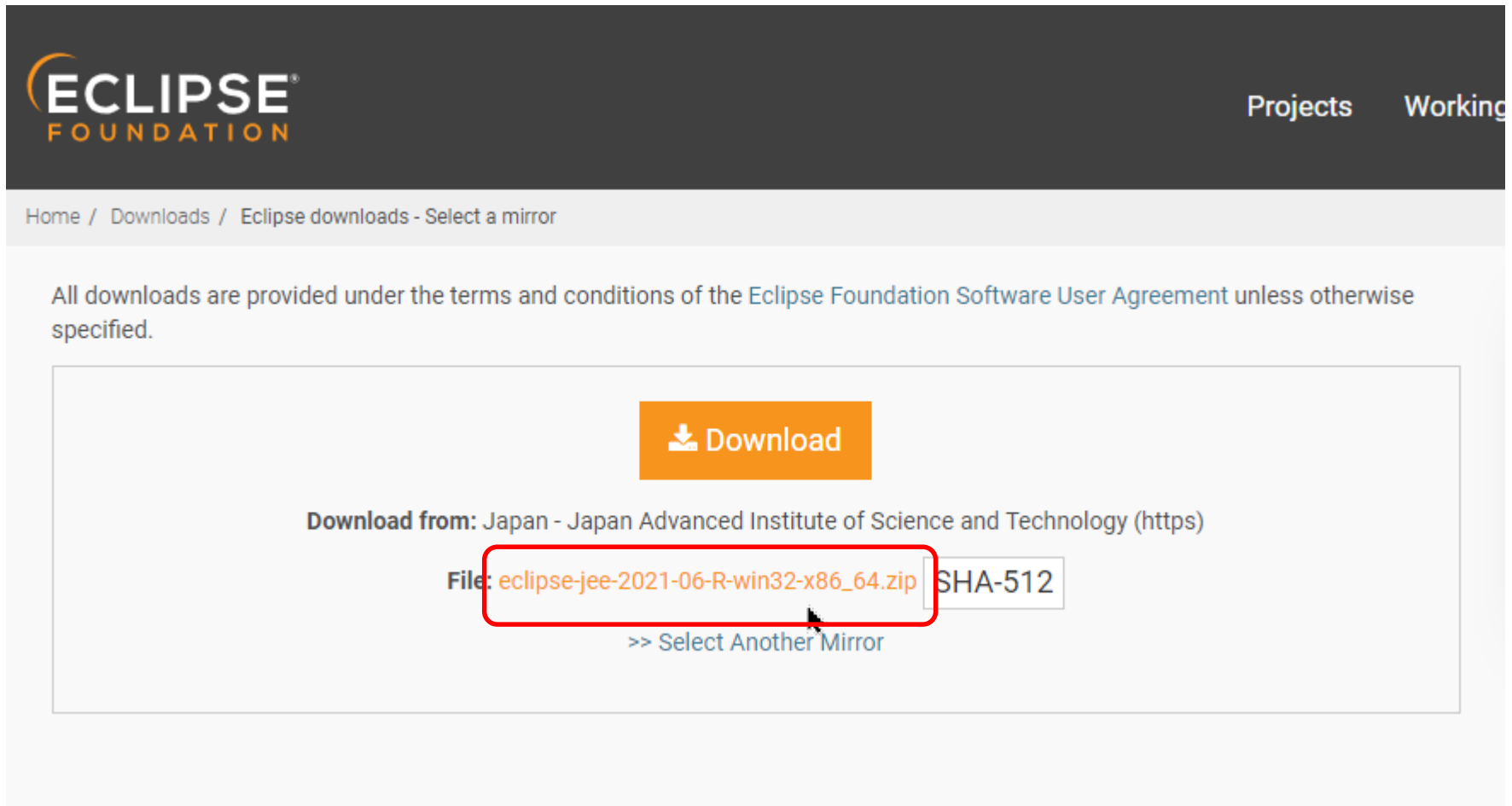
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Eclipse 설치



The screenshot shows the Eclipse Foundation website's download page. At the top is the Eclipse Foundation logo and navigation links for 'Projects' and 'Working'. Below the header is a breadcrumb trail: 'Home / Downloads / Eclipse downloads - Select a mirror'. A disclaimer states that all downloads are provided under the Eclipse Foundation Software User Agreement. The main content area features a large orange 'Download' button. Below the button, it specifies the download source as 'Japan - Japan Advanced Institute of Science and Technology (https)'. The file name 'eclipse-jee-2021-06-R-win32-x86_64.zip' is highlighted with a red rectangle, and the SHA-512 hash is shown in a box to its right. A link '>> Select Another Mirror' is located below the file name.

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Projects Working

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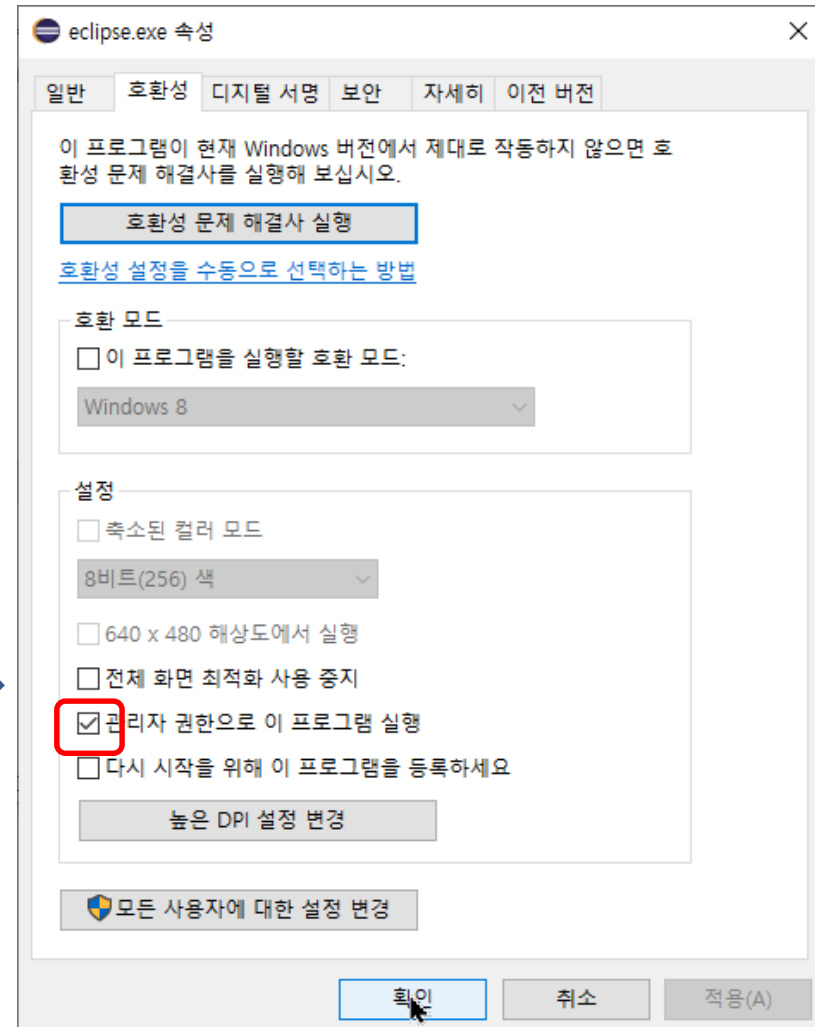
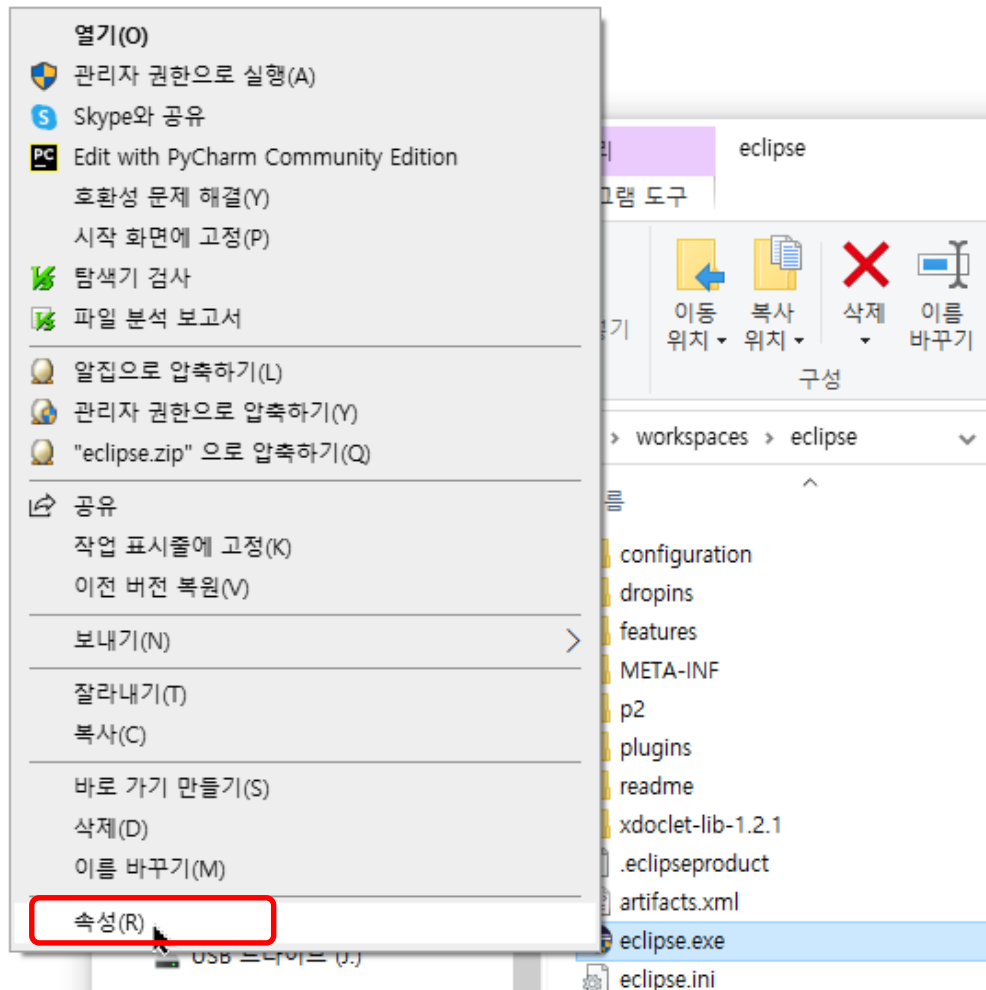
Download from: Japan - Japan Advanced Institute of Science and Technology (<https>)

File: **eclipse-jee-2021-06-R-win32-x86_64.zip** SHA-512

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- 다운로드 후에 C:\workspaces\ 폴더에 압축을 푼다.

Eclipse 설치

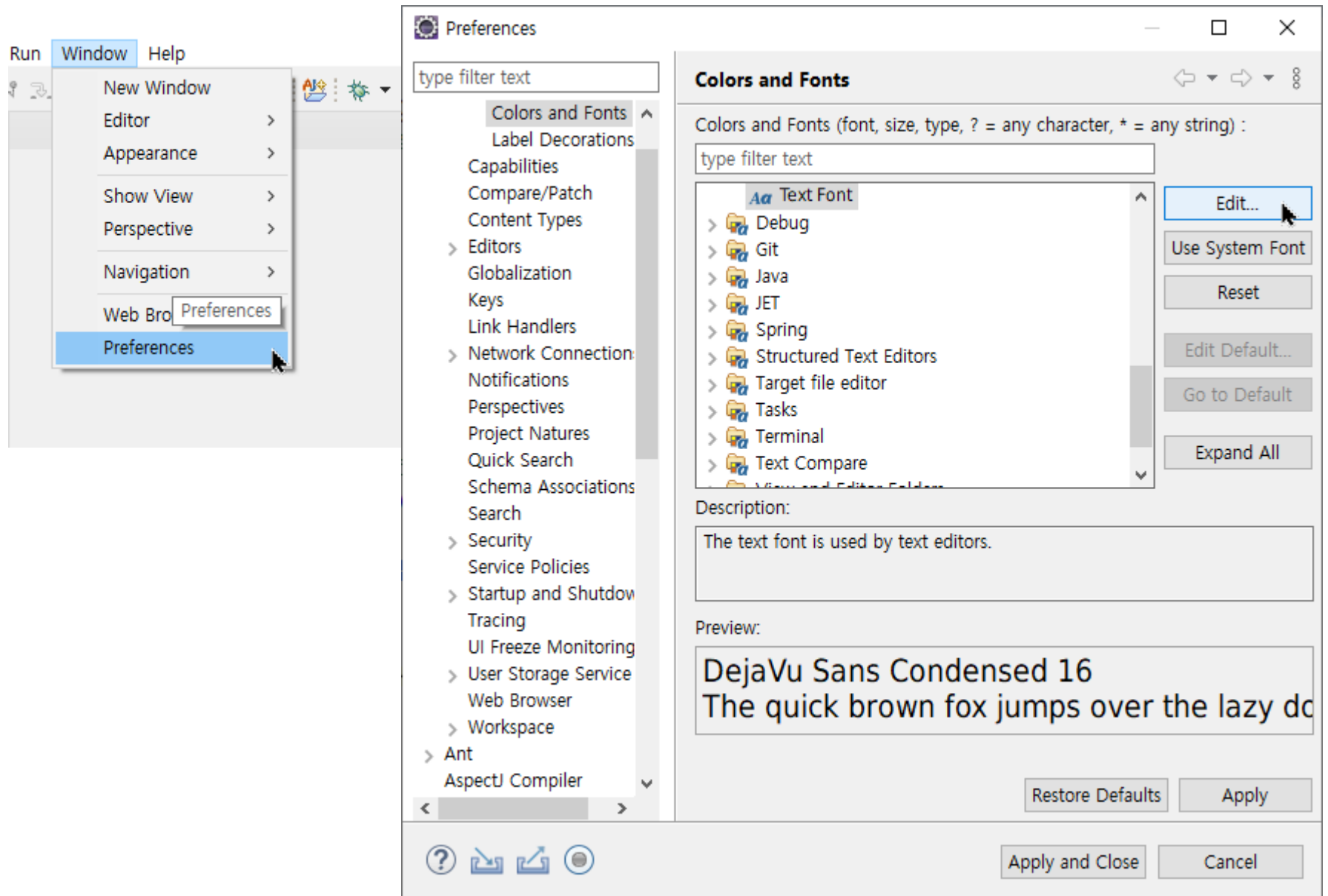


개발자 폰트 설정

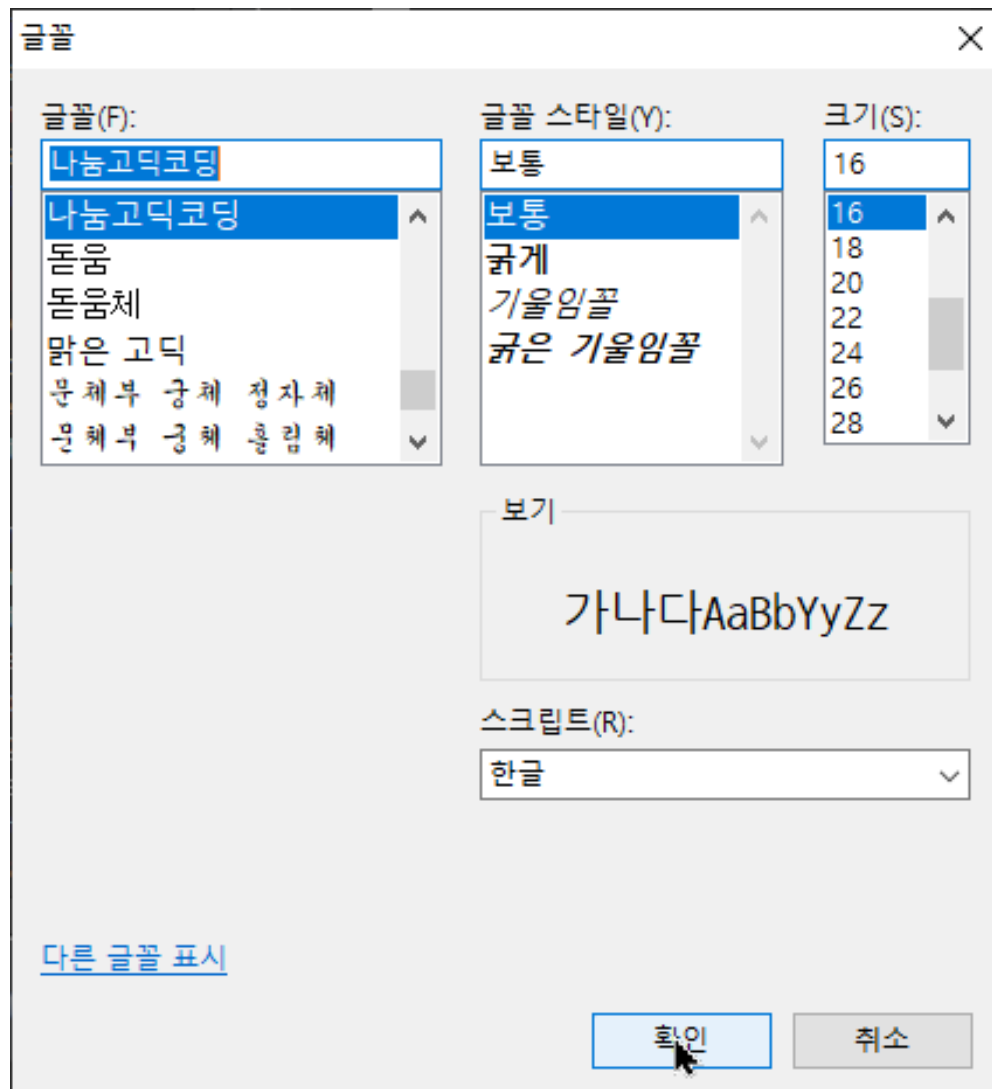
- <https://github.com/naver/nanumfont> 에서 폰트 다운로드
- C:\Windows\Fonts 폴더에 붙여넣기.



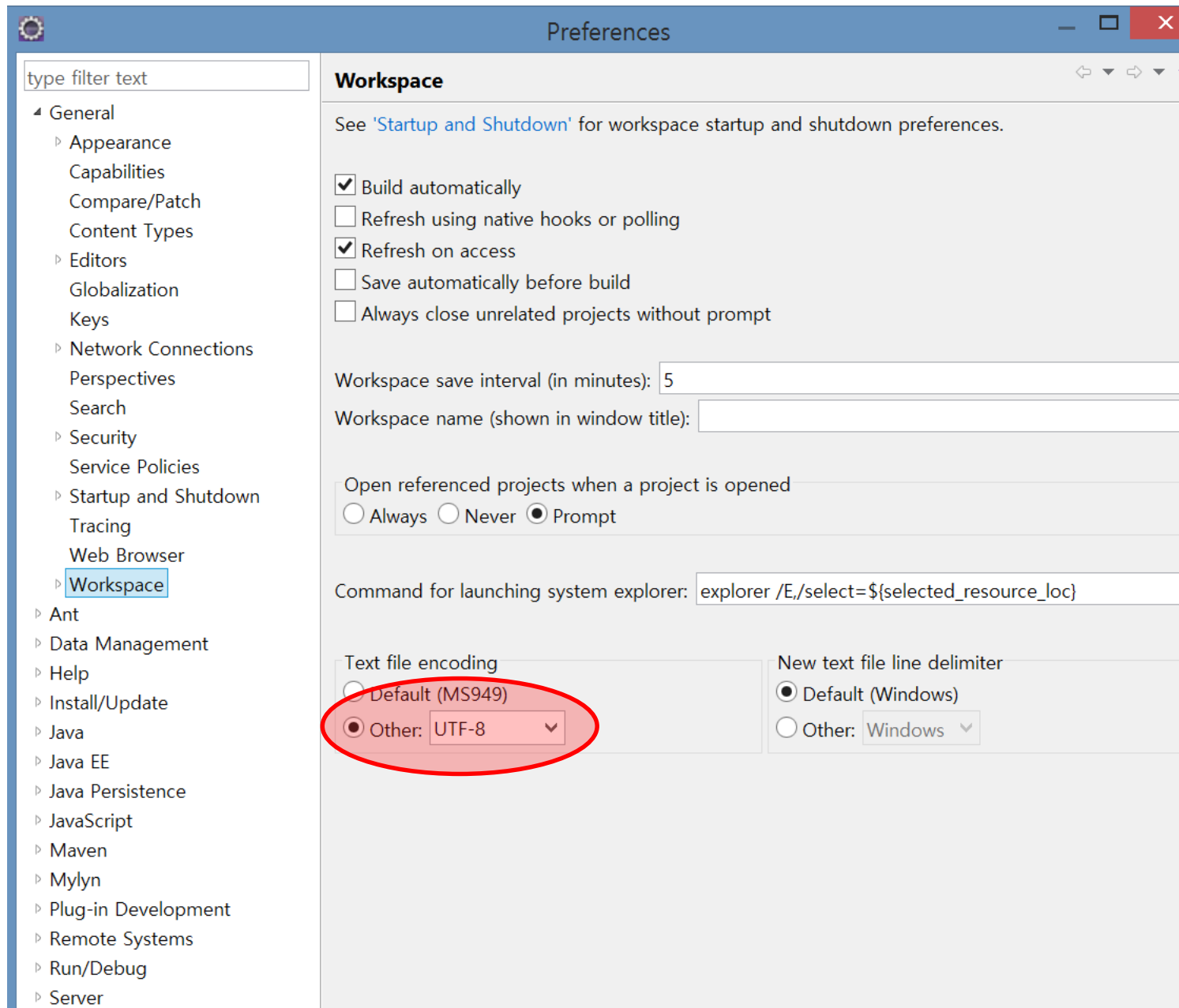
개발자 폰트 설정



개발자 폰트 설정



텍스트 파일의 인코딩 방식 변경



주석문 (1/2)

- 프로그램에 대한 보충 설명을 적어 놓는 것으로 프로그램의 실행에 영향을 주지 않는다.
- `/* */`
: 한 문장이나 여러 문장을 주석으로 처리하고자 할 경우 사용
- `//`
: 한 문장만을 주석으로 처리하고자 할 경우 사용

주석문 (2/2)

```
/*
```

```
Title : Hello, World
```

```
//Func. : Output*/
```

```
*/
```

```
class HelloWorld {
```

```
    public static void main(String[] args) {
```

```
        System.out.println("Hello, World!!!"); // 모니터로 문자열 출력
```

```
        //System.out.println("Welcome to Java World");
```

```
    }
```

```
}
```