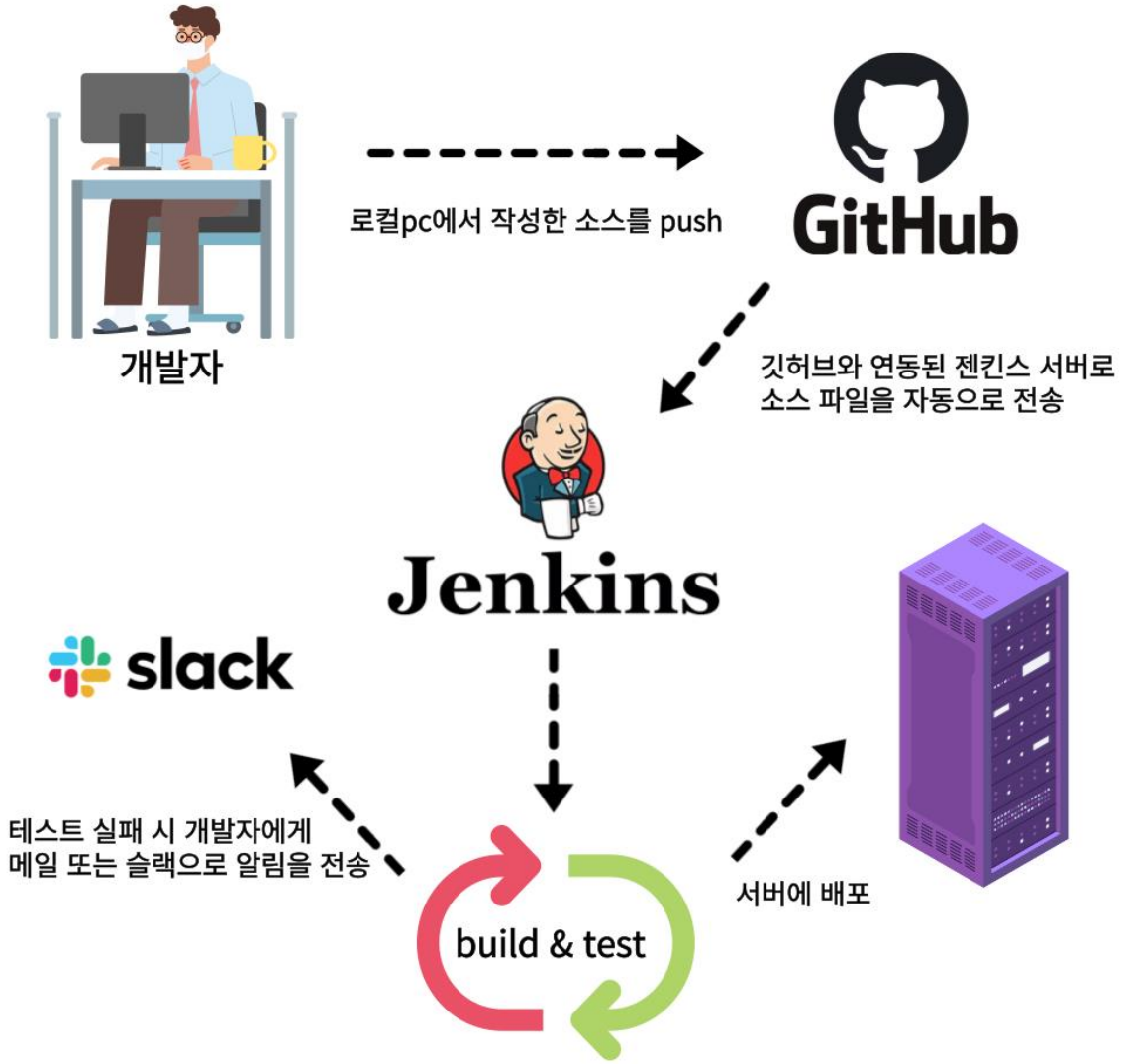
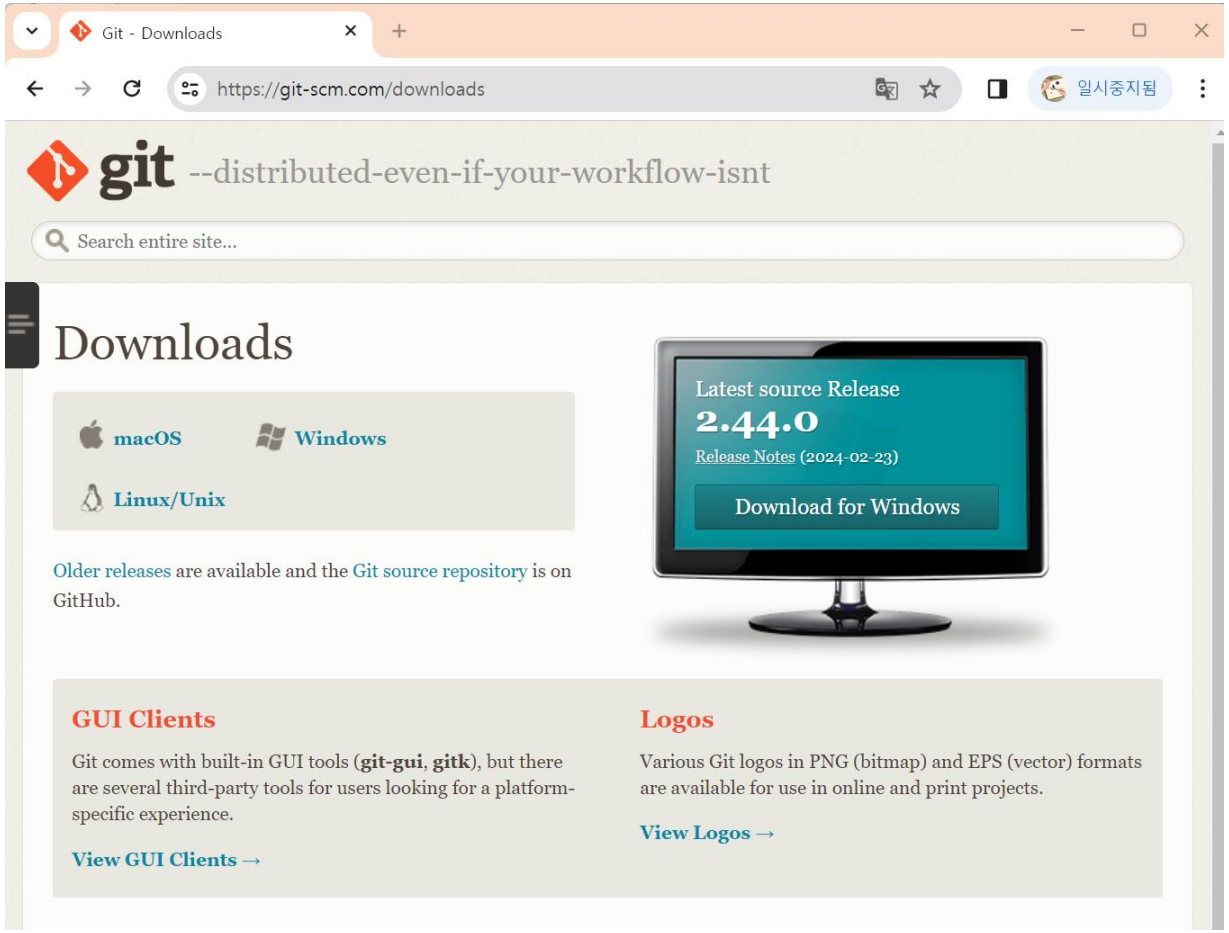
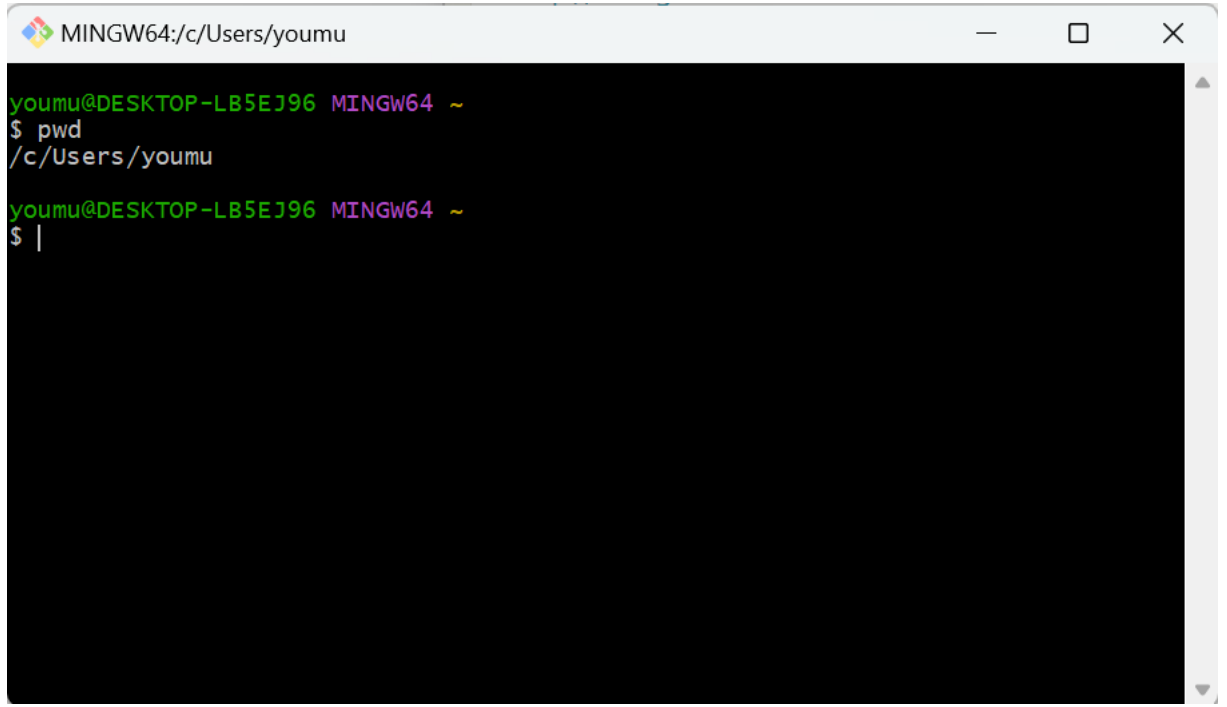
CI/CD 실습


개발자
로컬pc에서 작성한 소스를 push
GitHub
깃허브와 연동된 젠킨스 서버로
소스 파일을 자동으로 전송
Jenkins
slack
테스트 실패 시 개발자에게
메일 또는 슬랙으로 알림을 전송
build & test
서버에 배포

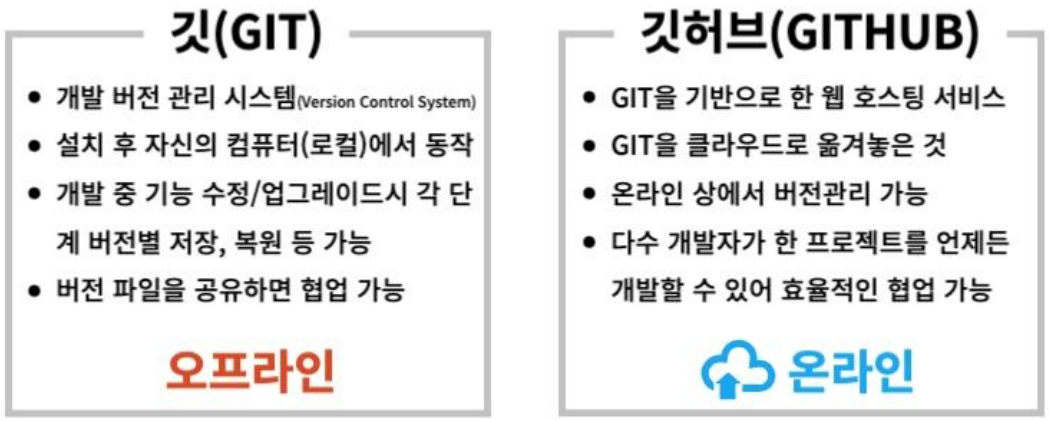
GIT 설치


Git - Downloads
https://git-scm.com/downloads
일시중지됨
git --distributed-even-if-your-workflow-isnt
Search entire site...
Downloads
macOS
Windows
Linux/Unix
Older releases are available and the Git source repository is on GitHub.
Latest source Release
2.44.0
Release Notes (2024-02-23)
Download for Windows
GUI Clients
Git comes with built-in GUI tools (git-gui, gitk), but there are several third-party tools for users looking for a platform-specific experience.
View GUI Clients →
Logos
Various Git logos in PNG (bitmap) and EPS (vector) formats are available for use in online and print projects.
View Logos →


MINGW64:/c/Users/youmu
youmu@DESKTOP-LB5EJ96 MINGW64 ~
$ pwd
/c/Users/youmu
youmu@DESKTOP-LB5EJ96 MINGW64 ~
$

GIThub

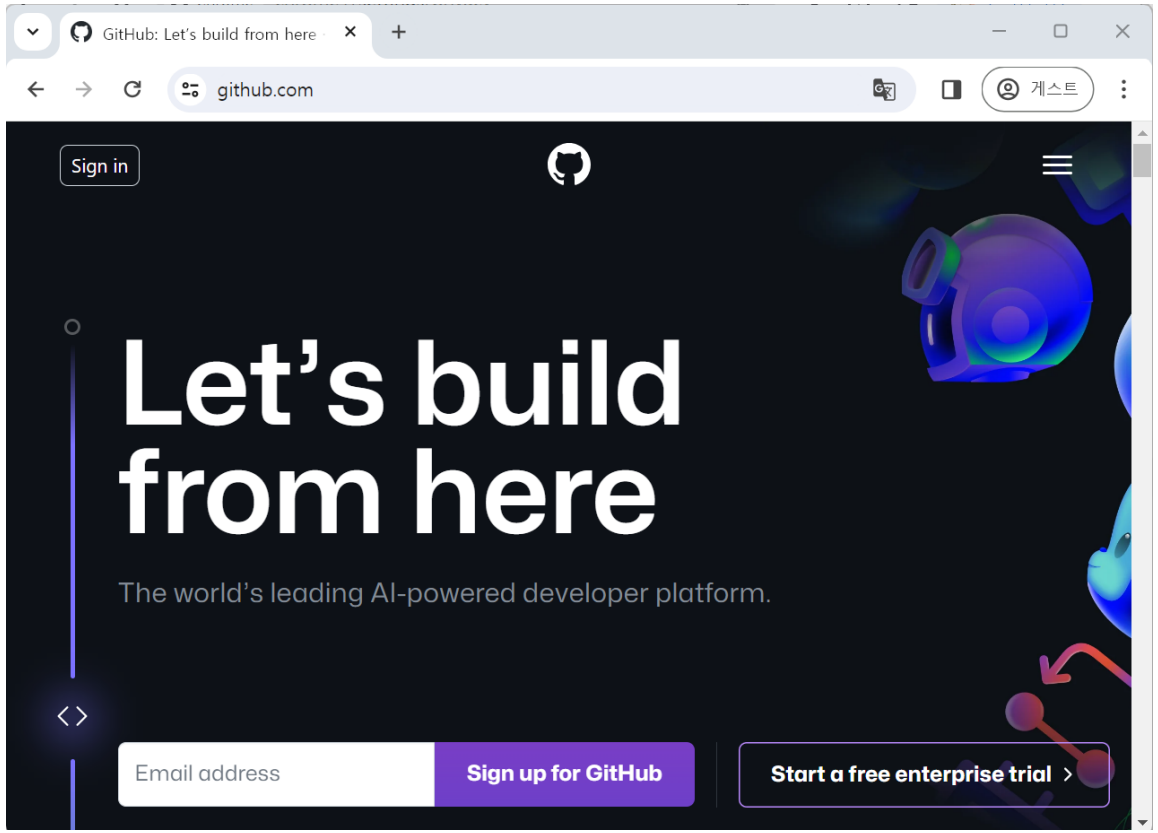
- Git을 기반으로 한 웹 기반 호스팅 서비스
- Git의 모든 기능을 제공할 뿐만 아니라, 프로젝트 협업을 위한 추가적인 기능들을 제공.(버그 추적, 기능 요청, 작업 관리, 위키, 그리고 소셜 네트워킹 같은 기능들이 포함)



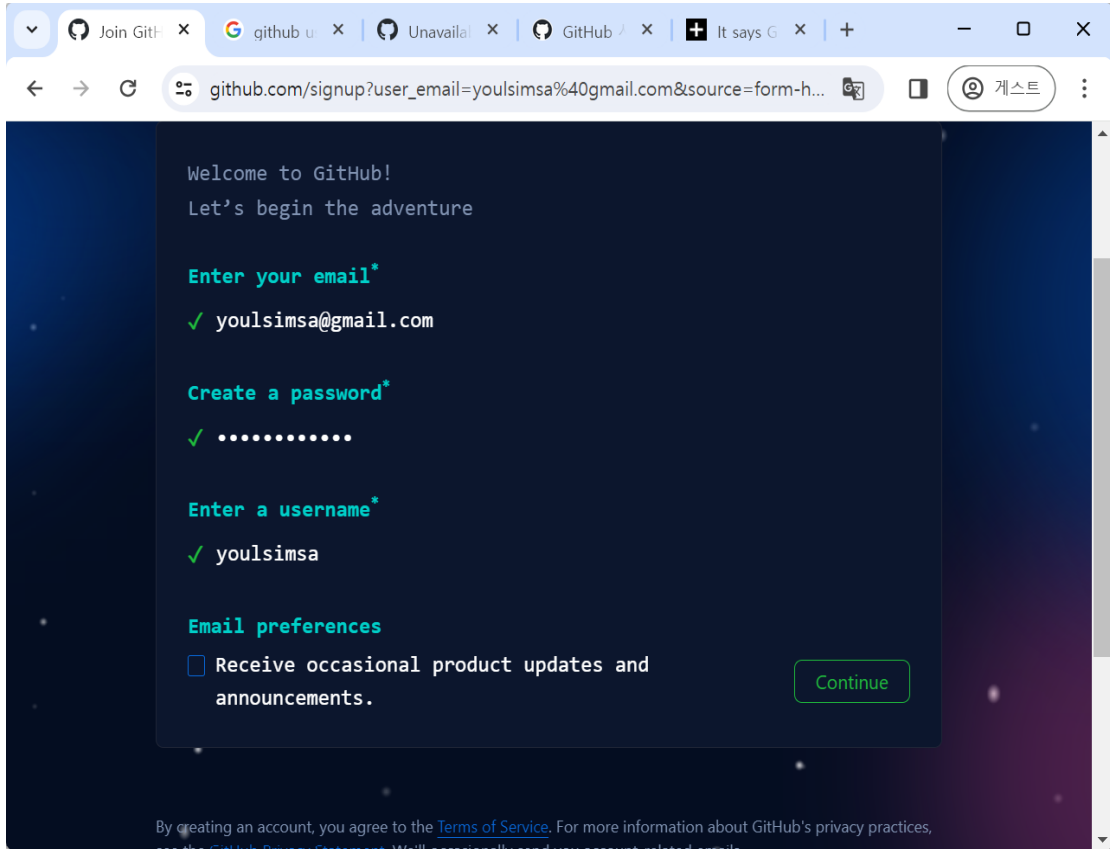
GIThub 가입

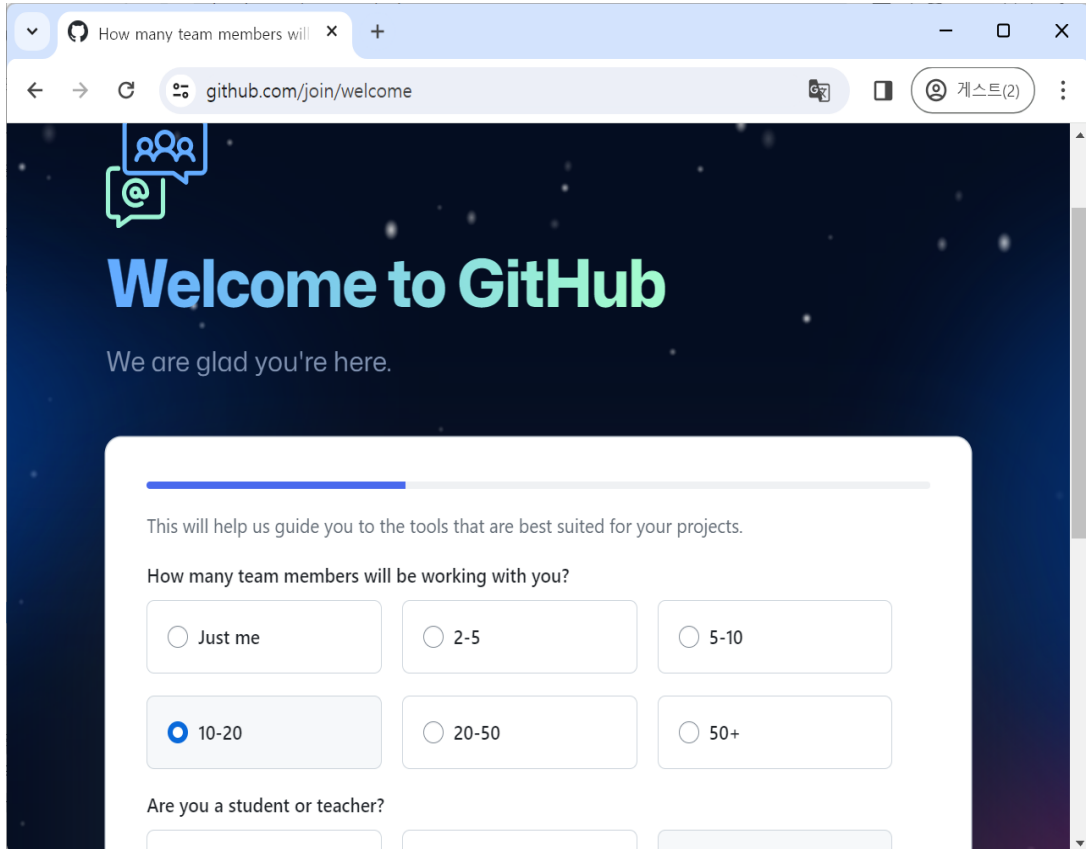
- 1. 깃헙 가입 페이지 이동
- - 다음 깃헙 가입 페이지로 이동하자.
- https://github.com/
- - "Sign up for GitHub"

버튼 클릭

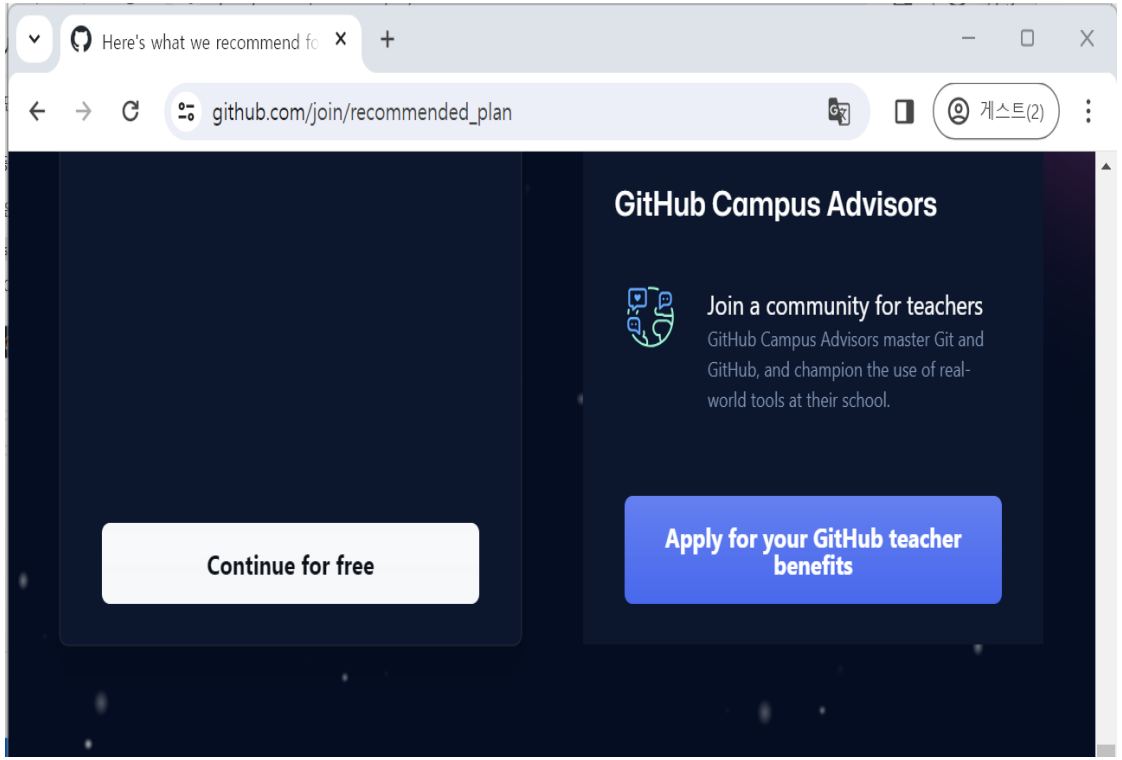


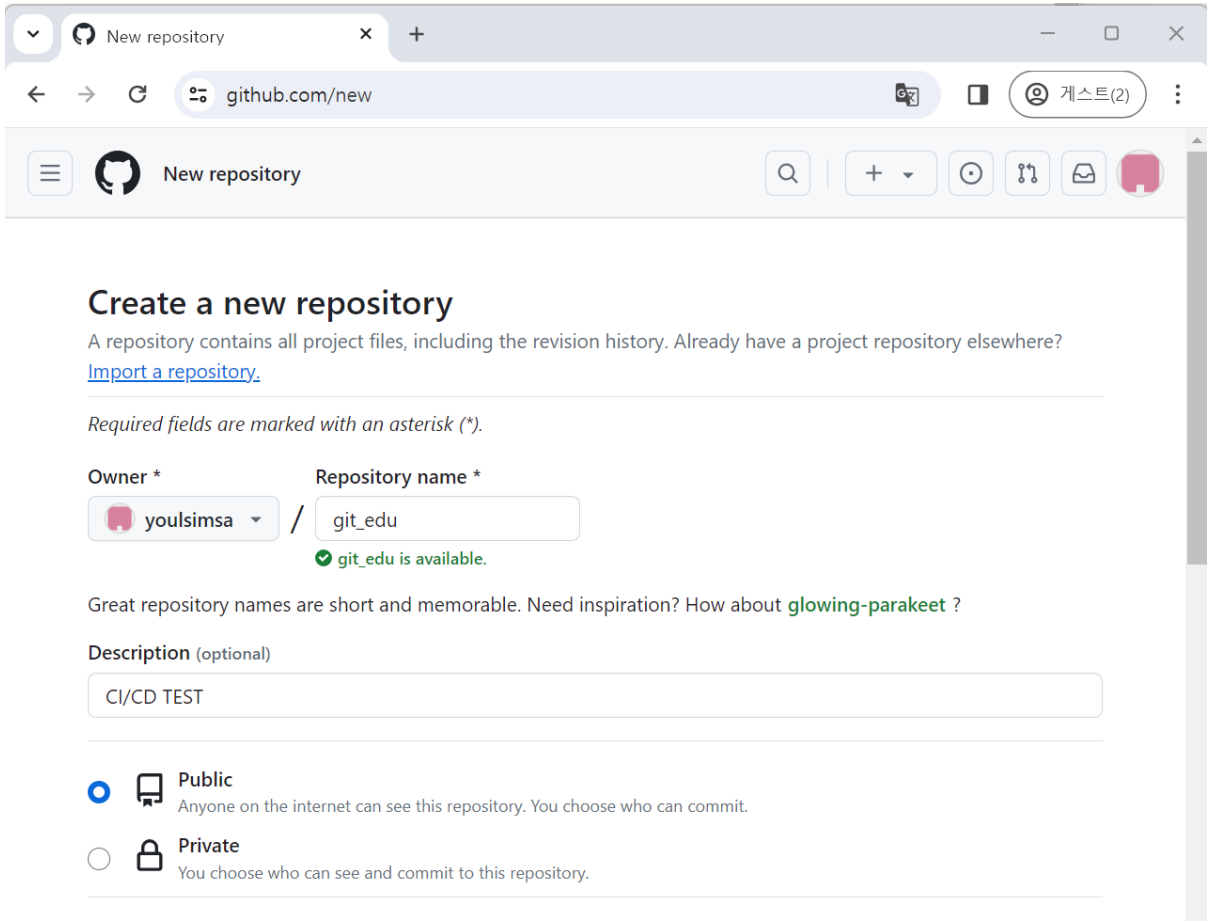
GIThub 가입


github.com/signup?user_email=youlsimsa%40gmail.com&source=form-h...
게스트
Welcome to GitHub!
Let's begin the adventure
Enter your email*
youlsimsa@gmail.com
Create a password*
Enter a username*
youlsimsa
Email preferences
Receive occasional product updates and announcements.
Continue
By creating an account, you agree to the Terms of Service. For more information about GitHub's privacy practices,

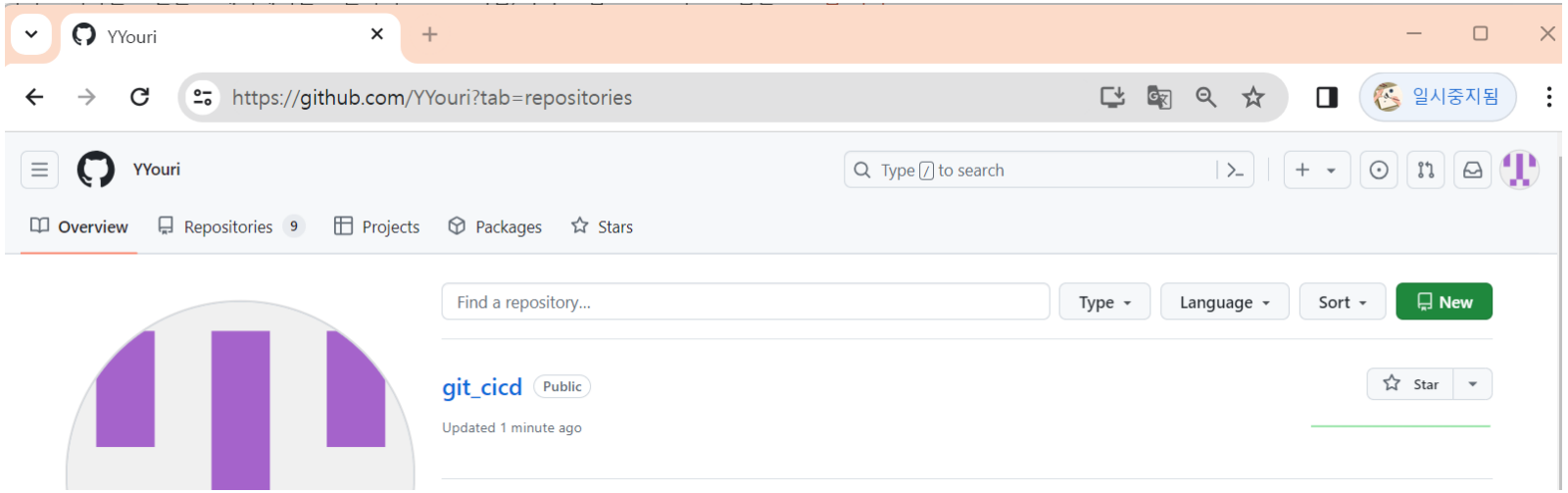

github.com/join/welcome
게스트(2)
Welcome to GitHub
We are glad you're here.
This will help us guide you to the tools that are best suited for your projects.
How many team members will be working with you?
Just me
2-5
5-10
10-20
20-50
50+
Are you a student or teacher?

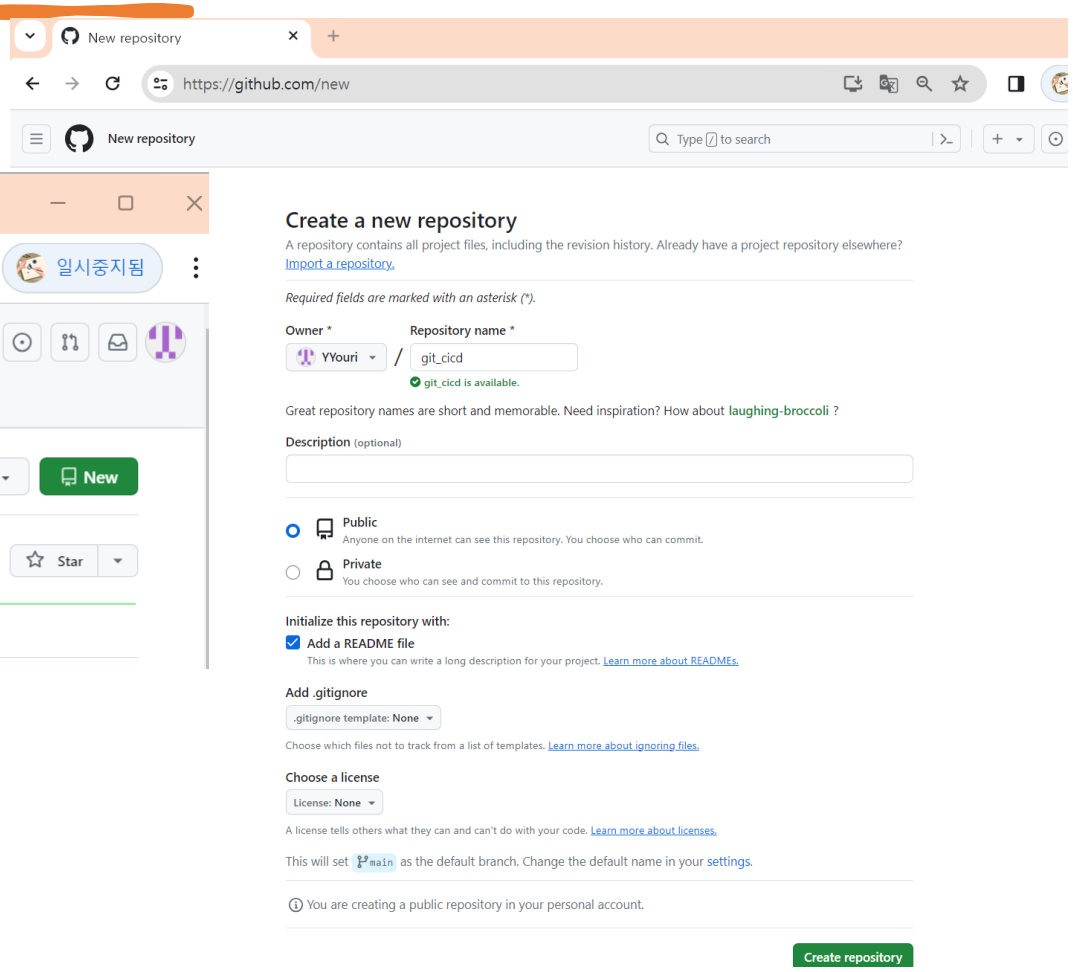
GIThub 가입


Here's what we recommend fc
github.com/join/recommended_plan
게스트(2)
GitHub Campus Advisors
Join a community for teachers
GitHub Campus Advisors master Git and GitHub, and champion the use of real-world tools at their school.
Continue for free
Apply for your GitHub teacher benefits

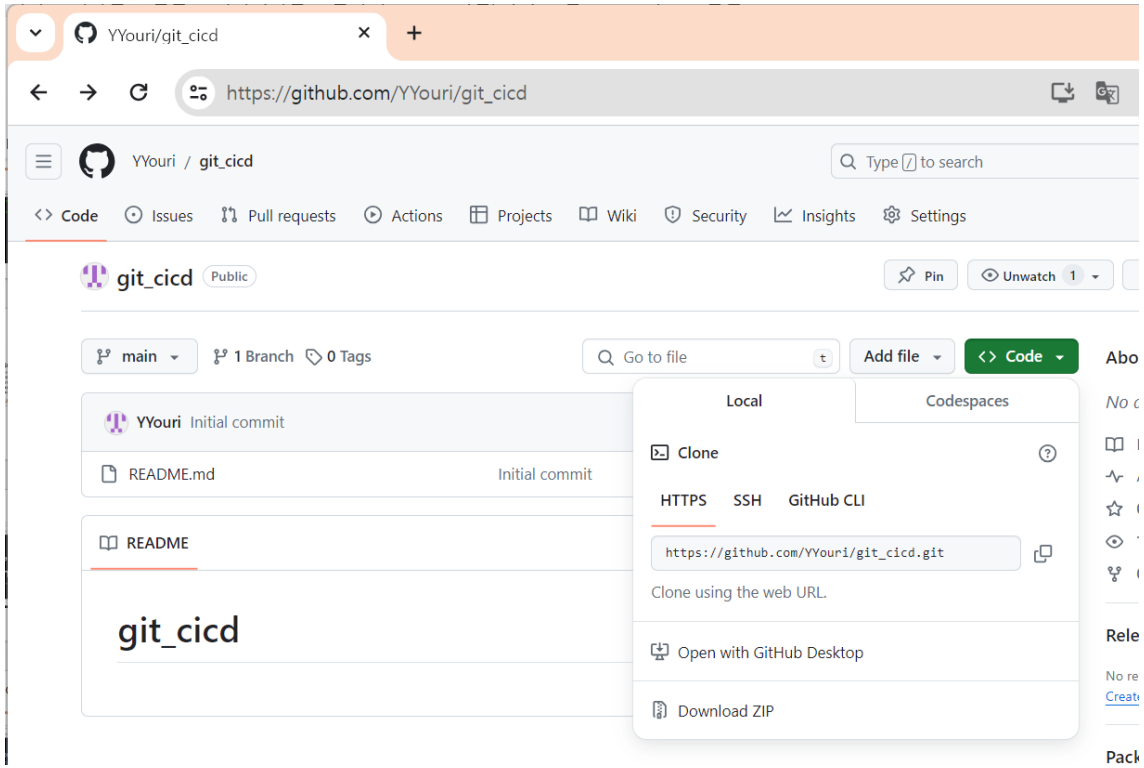

New repository
github.com/new
게스트(2)
New repository
Create a new repository
A repository contains all project files, including the revision history. Already have a project repository elsewhere?
Import a repository.
Required fields are marked with an asterisk (*).
Owner *
youlsimsa
/
Repository name *
git_edu
git_edu is available.
Great repository names are short and memorable. Need inspiration? How about glowing-parakeet ?
Description (optional)
CI/CD TEST
Public
Anyone on the internet can see this repository. You choose who can commit.
Private
You choose who can see and commit to this repository.

GIThub REPO생성



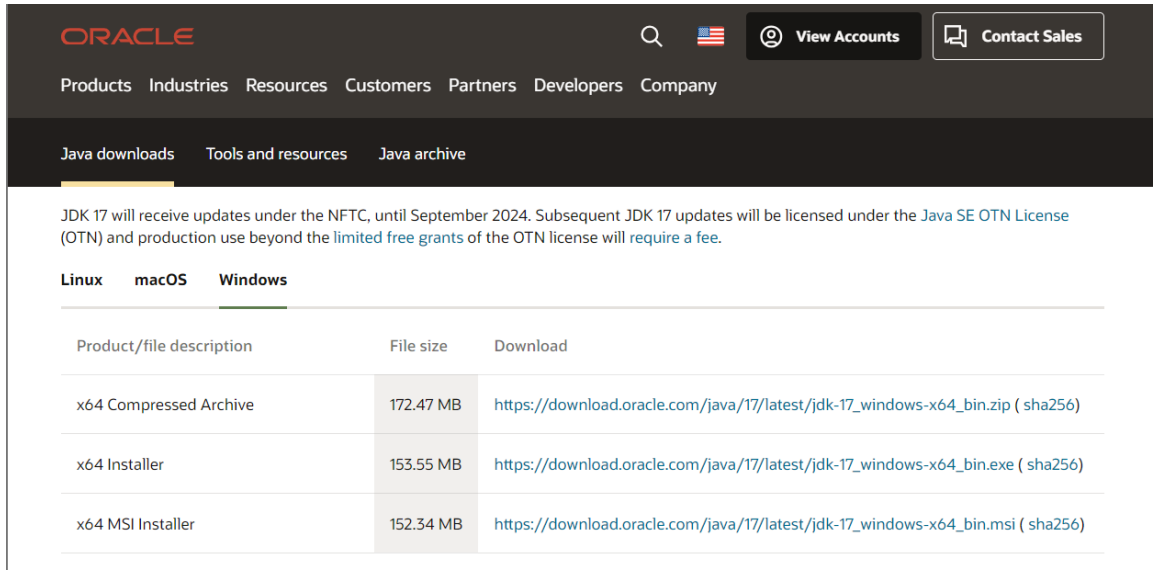


GIThub REPO생성



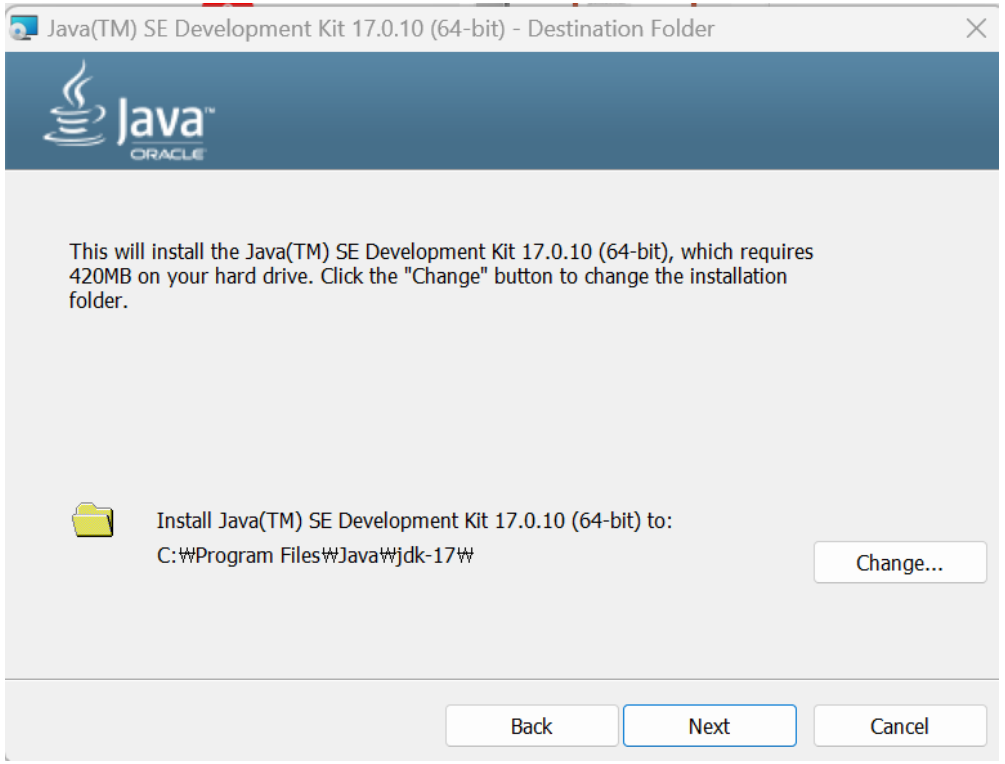
개발환경 준비

- 1. JDK 17다운로드
- https://www.oracle.com/java/technologies/downloads/#jdk17-windows



개발환경 준비

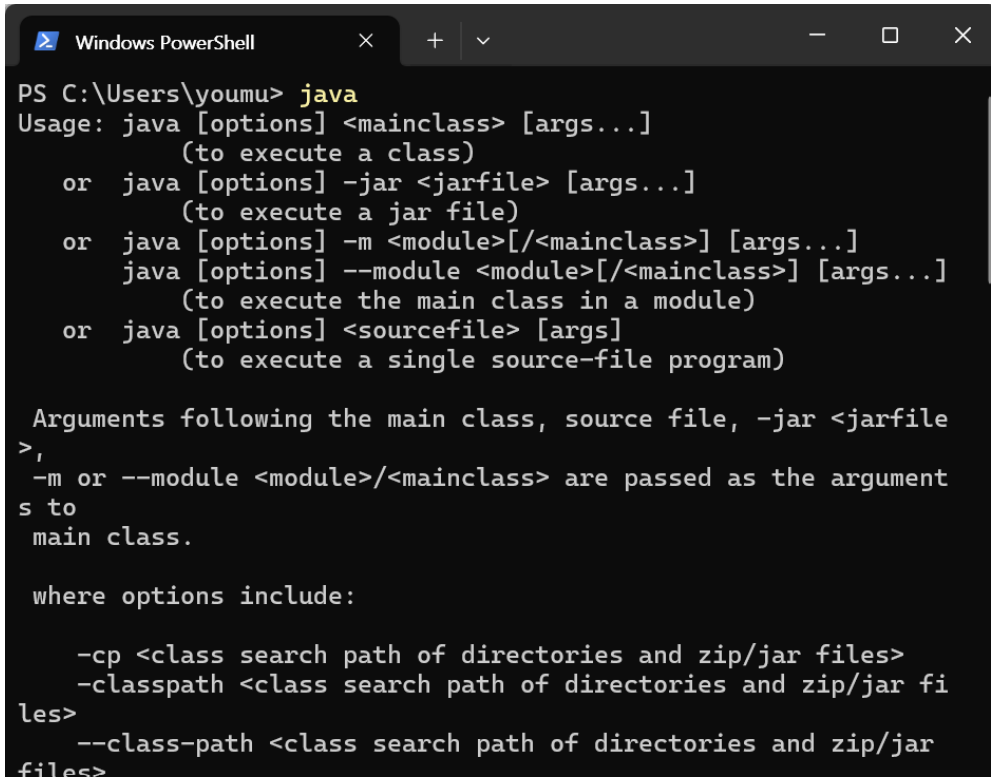
2. JDK 17 설치



개발환경 준비

2. JDK 17 설치

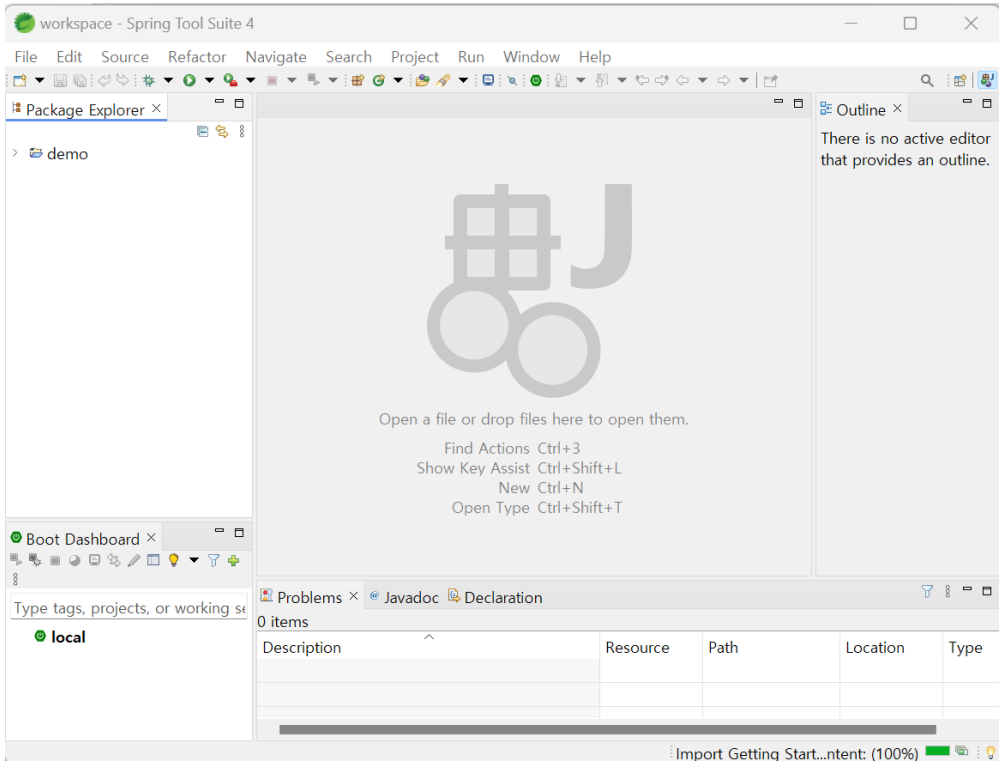
Java version 이 다를 경우 시스템 변수 확인



개발환경 준비

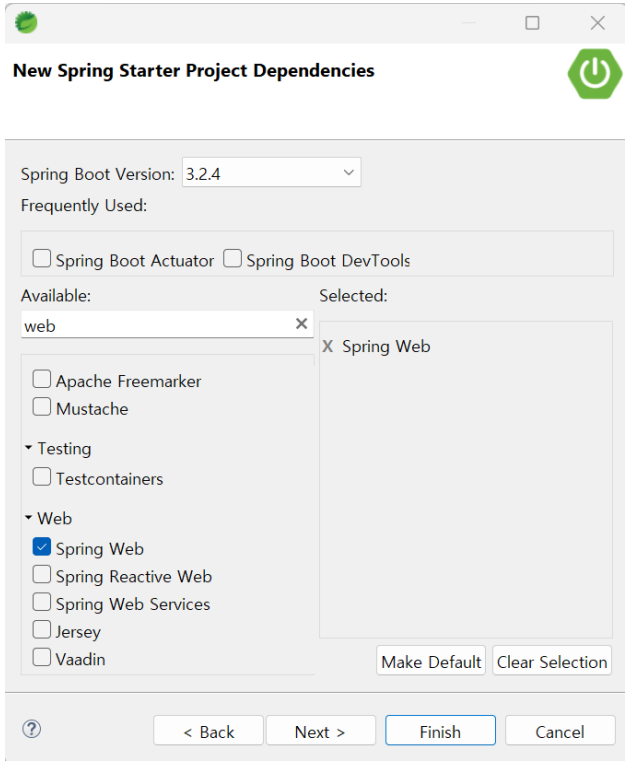
- IDE설치 (eclipse.org, spring.io/tools)
- Eclipse : 범용적 사용
  - Eclipse IDE for Java Developers는 자바 개발을 위한 IDE로 순수한 자바만을 지원
  - Eclipse IDE for Enterprise Java Developers는 자바 웹 개발을 위한 IDE로 순수 자바를 포함
- STS : 스프링 프레임워크에 특화된 IDE

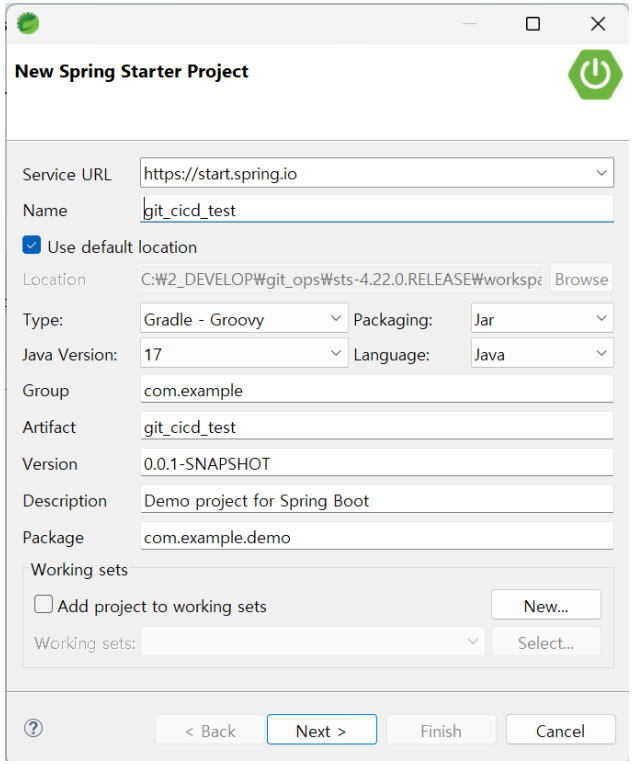
개발환경 준비


workspace - Spring Tool Suite 4
File Edit Source Refactor Navigate Search Project Run Window Help
Package Explorer
demo
Outline
There is no active editor that provides an outline.
Open a file or drop files here to open them.
Find Actions Ctrl+3
Show Key Assist Ctrl+Shift+L
New Ctrl+N
Open Type Ctrl+Shift+T
Boot Dashboard
Type tags, projects, or working se
local
Problems
Javadoc
Declaration
0 items
Description
Resource
Path
Location
Type
Import Getting Start...ntent: (100%)

Spring boot

Problem 발생 시 Gradle-refresh gradle project





Spring boot

Run as – spring boot app

application.properties

```
spring.application.name=git_cicd_test
server.port=8011
```

CheckController.java

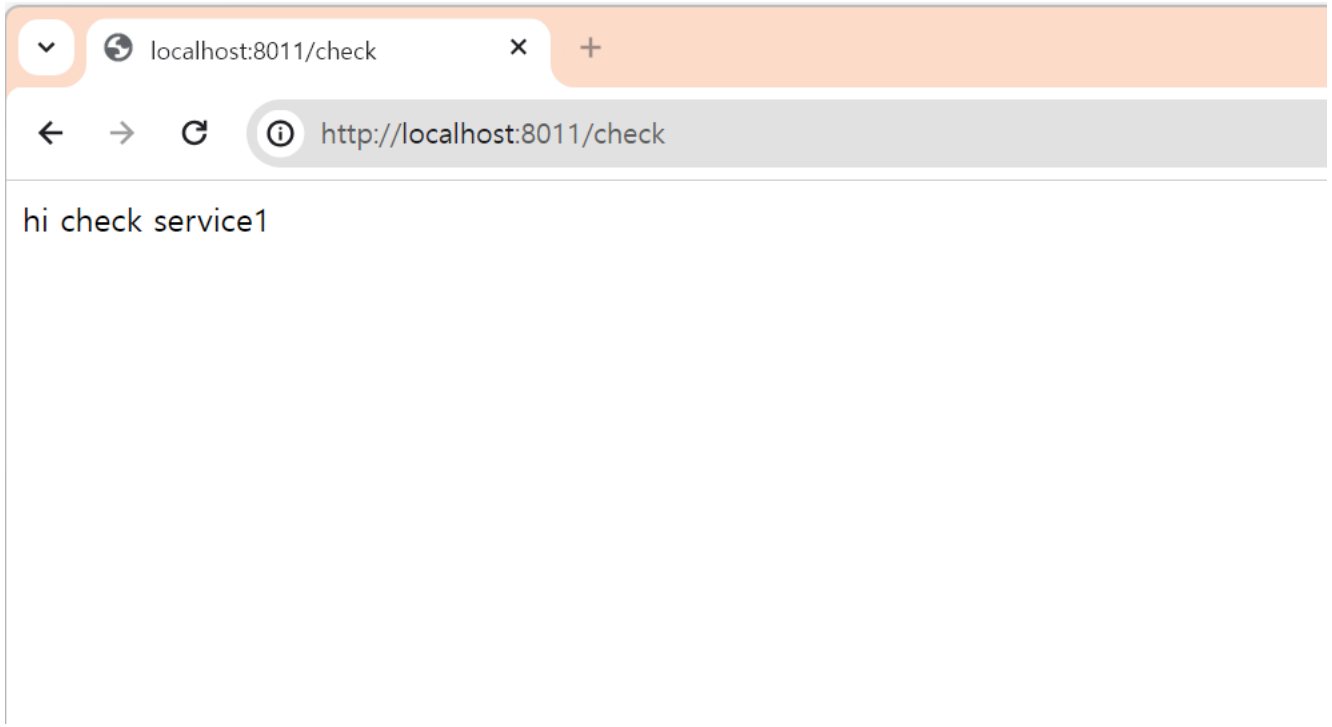
```
package com.example.demo;

import org.springframework.web.bind.annotation.GetMapping;

@RestController
public class CheckController {
	@GetMapping("/check")
	public String check(){
		return "hi check service1";
	}
}
```

Problems Javadoc Declaration Console Git Staging Debug

git_cicd_test - GitCicdTestApplication (1) [Spring Boot App] C:₩2_DEVELOP₩git_ops₩sts-4.22.0.RELEASE₩plugins₩org.eclipse.justj.openjdk.hotspot.jre.fu

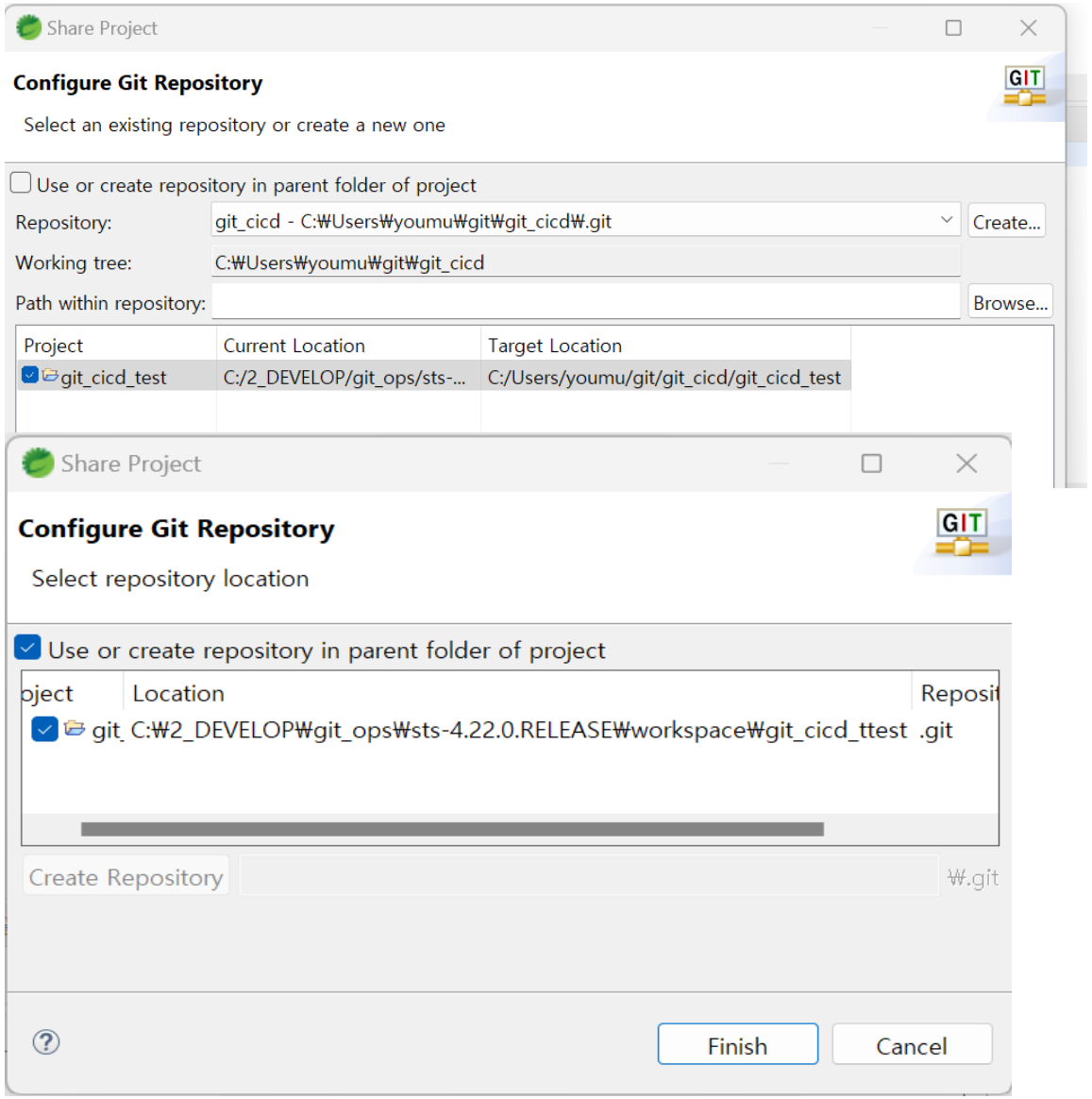
```
  .   ____          _            __ _ _
 /\\ / ___'_ __ _ _(_)_ __  __ _ \ \ \ \
( ( )\___ | '_ | '_| | '_ \/ _` | \ \ \ \
 \\/  ___)| |_)| | | | | || (_| |  ) ) ) )
  '  |____| .__|_| |_|_| |_\__, | / / / /
 =========|_|==============|___/=/_/_/_/
 :: Spring Boot ::                (v3.2.4)

2024-04-18T22:27:33.065+09:00  INFO 24236 --- [git_cicd_test] [           main] c.example.demo.GitCicdTestApplic
2024-04-18T22:27:33.069+09:00  INFO 24236 --- [git_cicd_test] [           main] c.example.demo.GitCicdTestApplic
2024-04-18T22:27:33.874+09:00  INFO 24236 --- [git_cicd_test] [           main] o.s.b.w.embedded.tomcat.TomcatWe
2024-04-18T22:27:33.886+09:00  INFO 24236 --- [git_cicd_test] [           main] o.apache.catalina.core.StandardS
2024-04-18T22:27:33.887+09:00  INFO 24236 --- [git_cicd_test] [           main] o.apache.catalina.core.StandardE
2024-04-18T22:27:33.934+09:00  INFO 24236 --- [git_cicd_test] [           main] o.a.c.c.C.[Tomcat].[localhost].[
2024-04-18T22:27:33.934+09:00  INFO 24236 --- [git_cicd_test] [           main] w.s.c.ServletWebServerApplicatio
2024-04-18T22:27:34.275+09:00  INFO 24236 --- [git_cicd_test] [           main] o.s.b.w.embedded.tomcat.TomcatWe
2024-04-18T22:27:34.283+09:00  INFO 24236 --- [git_cicd_test] [           main] c.example.demo.GitCicdTestApplic
```

Spring boot


localhost:8011/check
http://localhost:8011/check
hi check service1

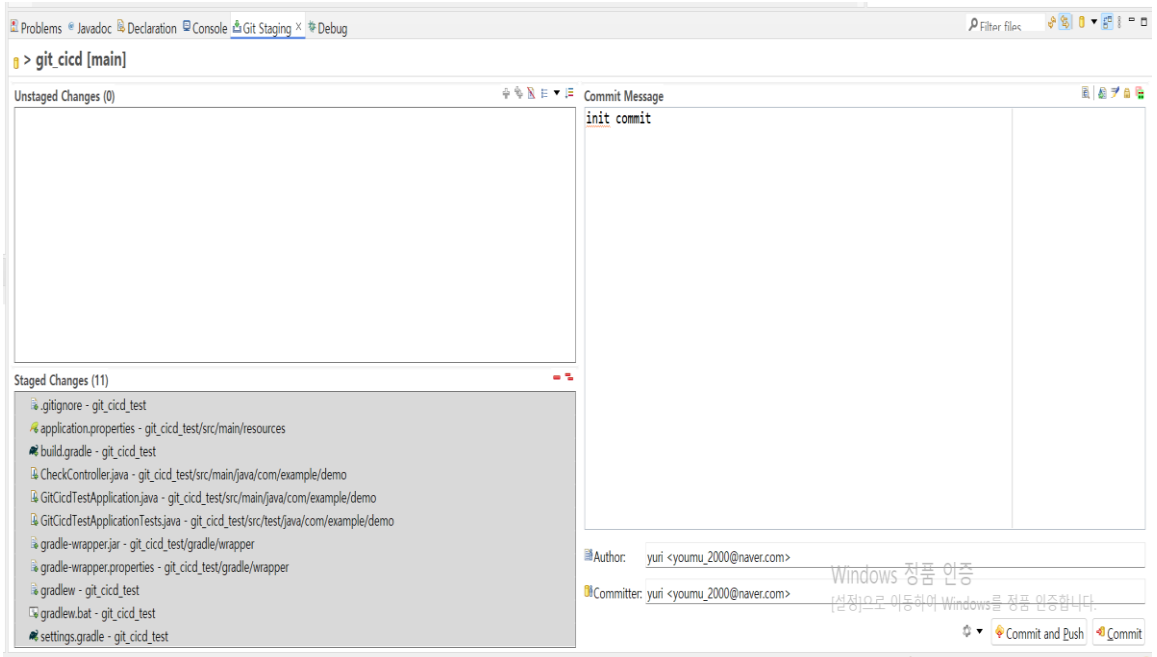
GITHub 연동

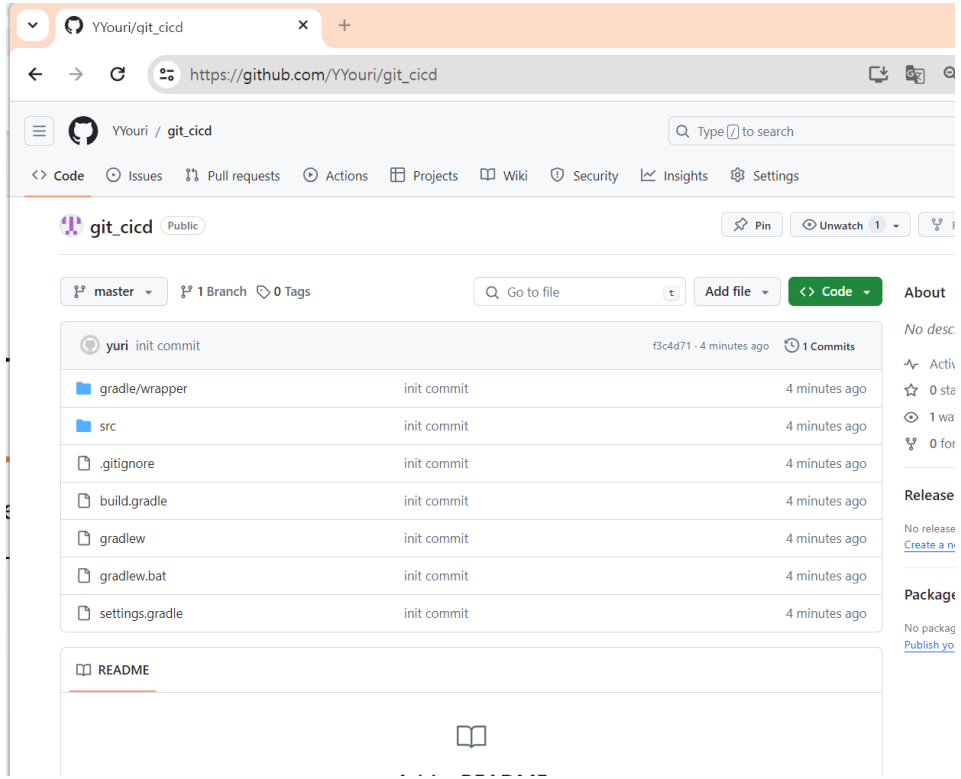
- Package Explorer 이동
- 프로젝트 – team-share project



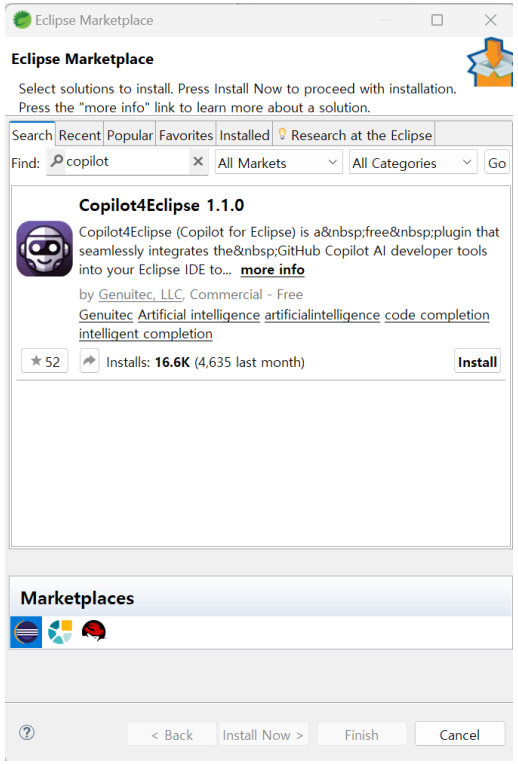
GITHub 연동

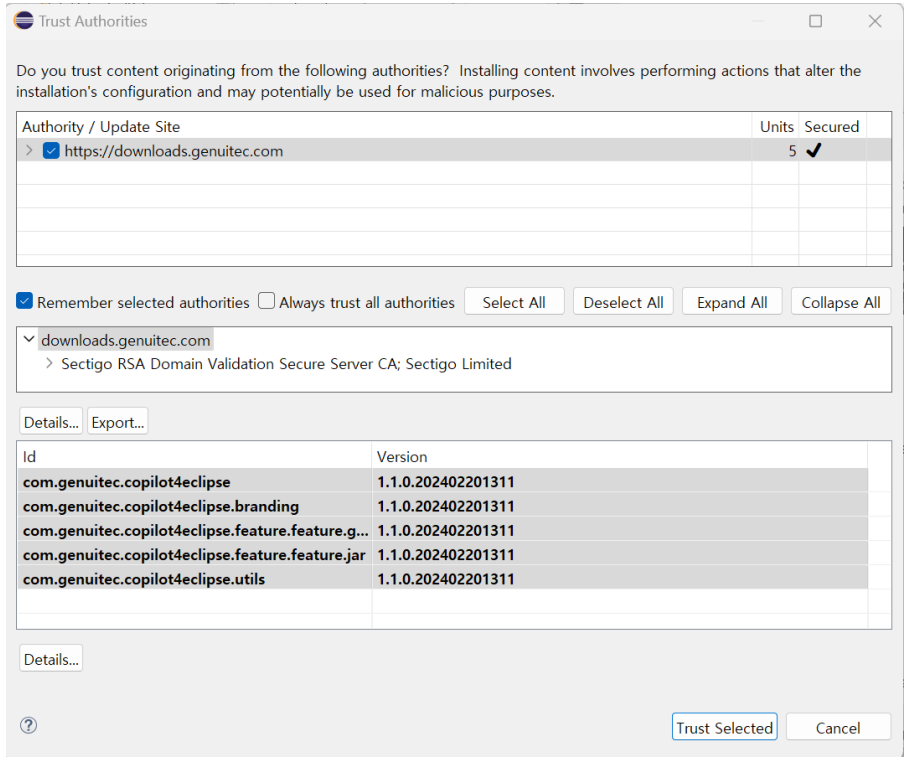
- Git Perspective이동
- Push- branch

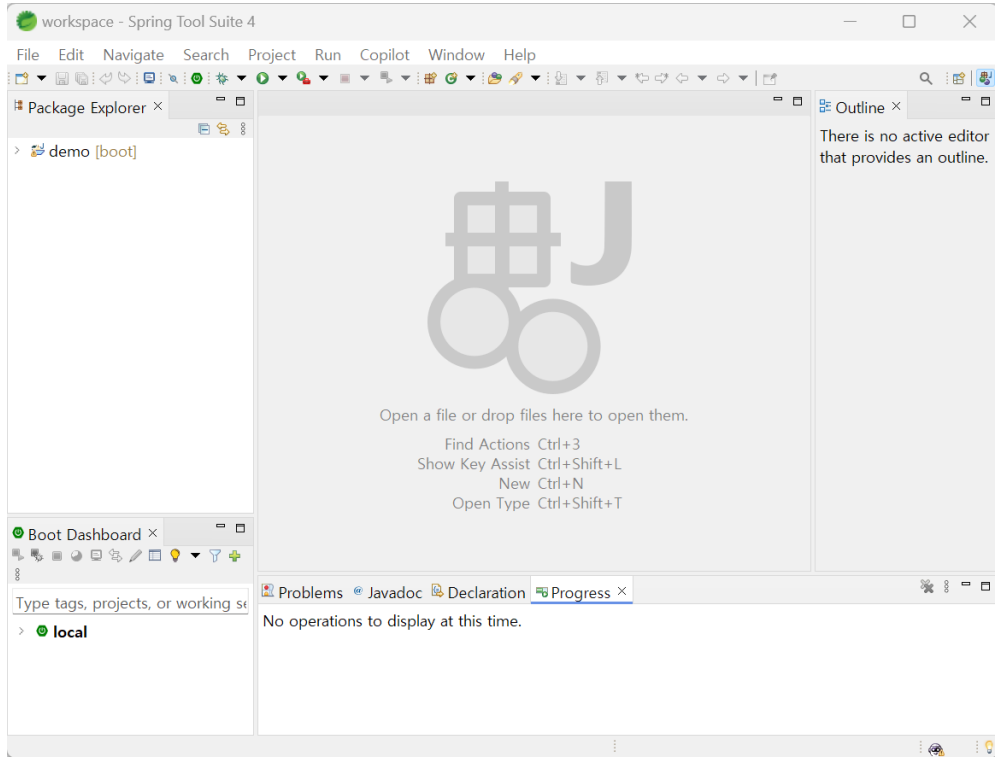




코파일럿 설치


Eclipse Marketplace
Eclipse Marketplace
Select solutions to install. Press Install Now to proceed with installation.
Press the "more info" link to learn more about a solution.
Search
Recent
Popular
Favorites
Installed
Research at the Eclipse
Find:
copilot
All Markets
All Categories
Go
Copilot4Eclipse 1.1.0
Copilot4Eclipse (Copilot for Eclipse) is a free plugin that seamlessly integrates the GitHub Copilot AI developer tools into your Eclipse IDE to...
more info
by Genuitec, LLC, Commercial - Free
Genuitec Artificial intelligence artificialintelligence code completion intelligent completion
52
Installs: 16.6K (4,635 last month)
Install
Marketplaces
< Back
Install Now >
Finish
Cancel

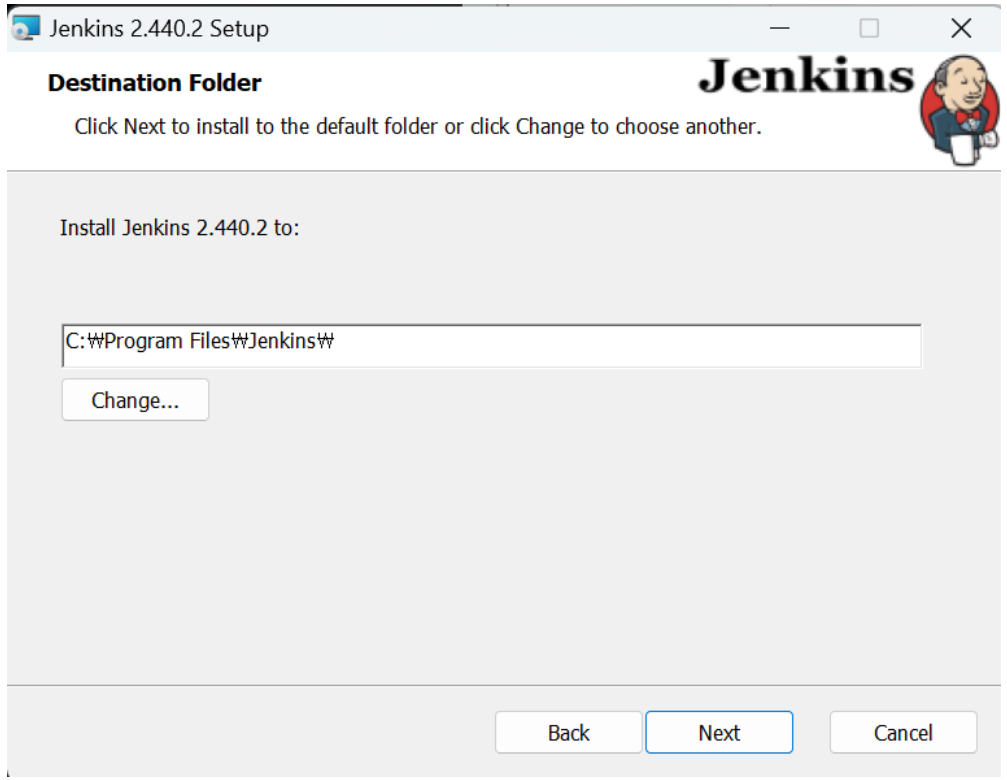

Trust Authorities
Do you trust content originating from the following authorities? Installing content involves performing actions that alter the installation's configuration and may potentially be used for malicious purposes.
Authority / Update Site
Units
Secured
https://downloads.genuitec.com
5
Remember selected authorities
Always trust all authorities
Select All
Deselect All
Expand All
Collapse All
downloads.genuitec.com
Sectigo RSA Domain Validation Secure Server CA; Sectigo Limited
Details...
Export...
Id
Version
com.genuitec.copilot4eclipse
1.1.0.202402201311
com.genuitec.copilot4eclipse.branding
1.1.0.202402201311
com.genuitec.copilot4eclipse.feature.feature.g...
1.1.0.202402201311
com.genuitec.copilot4eclipse.feature.feature.jar
1.1.0.202402201311
com.genuitec.copilot4eclipse.utils
1.1.0.202402201311
Details...
Trust Selected
Cancel


workspace - Spring Tool Suite 4
File
Edit
Navigate
Search
Project
Run
Copilot
Window
Help
Package Explorer
demo [boot]
Outline
There is no active editor that provides an outline.
Open a file or drop files here to open them.
Find Actions Ctrl+3
Show Key Assist Ctrl+Shift+L
New Ctrl+N
Open Type Ctrl+Shift+T
Boot Dashboard
Type tags, projects, or working se
local
Problems
Javadoc
Declaration
Progress
No operations to display at this time.

GIThub-WebHooks –Jenkins

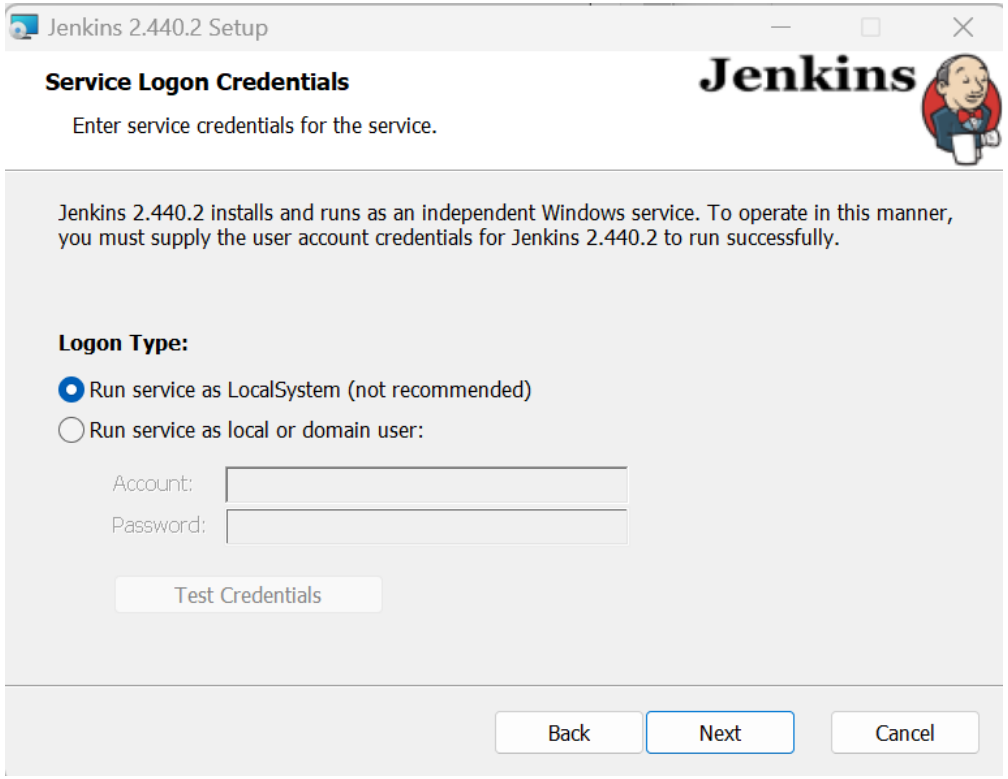
Jenkins 설치

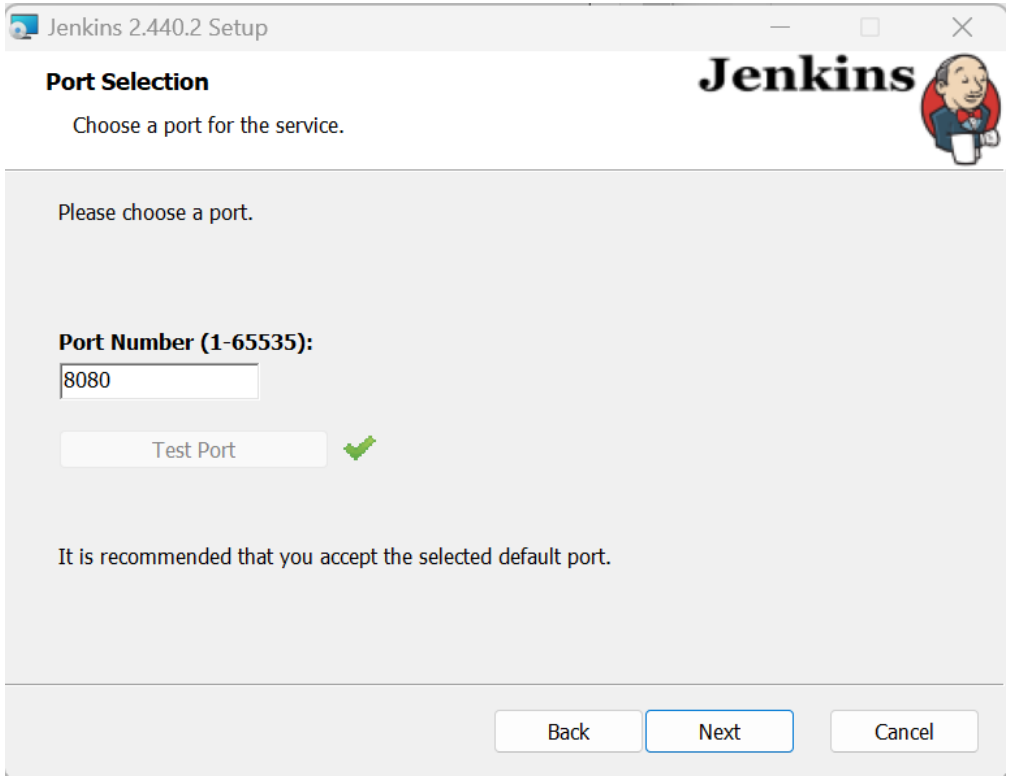
- 1. Jenkins 다운로드 : https://www.jenkins.io/
- 2. Jenkins 설치



Jenkins 설치

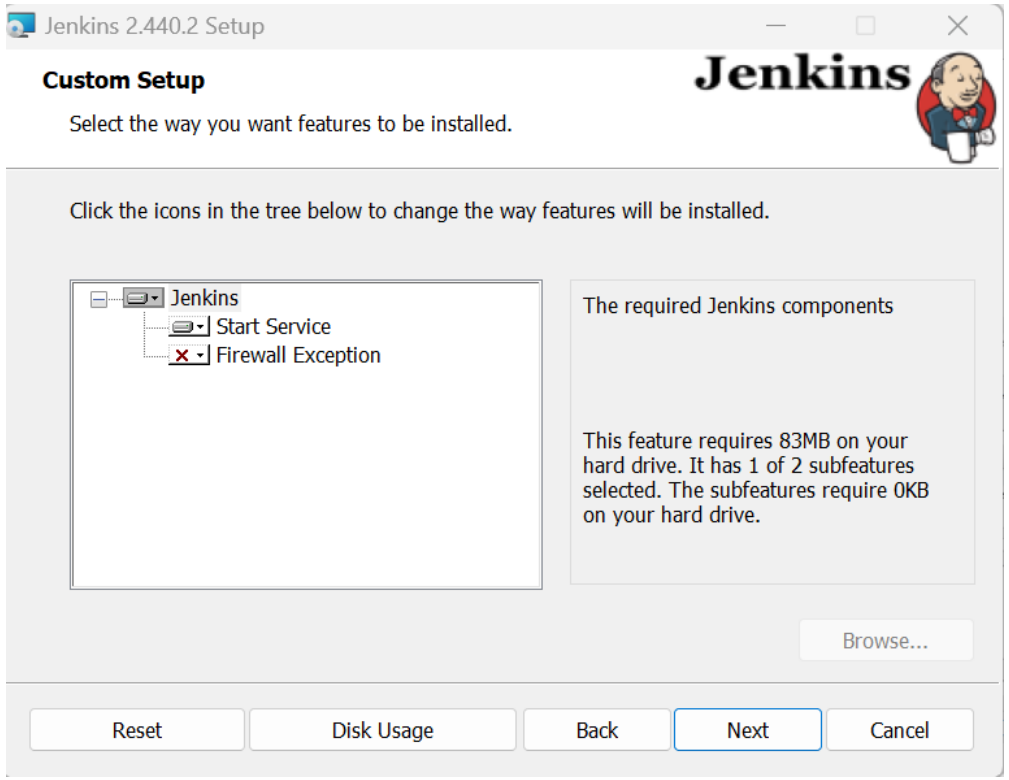
- 2. Jenkins 설치





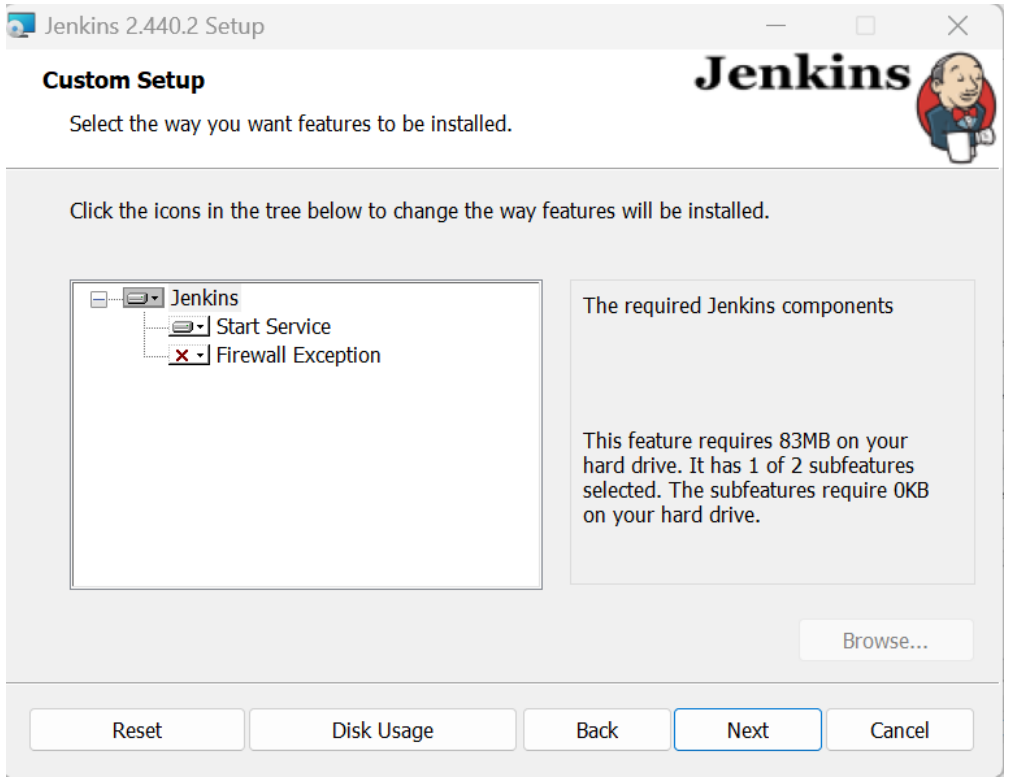
Jenkins 설치

- 2. Jenkins 설치



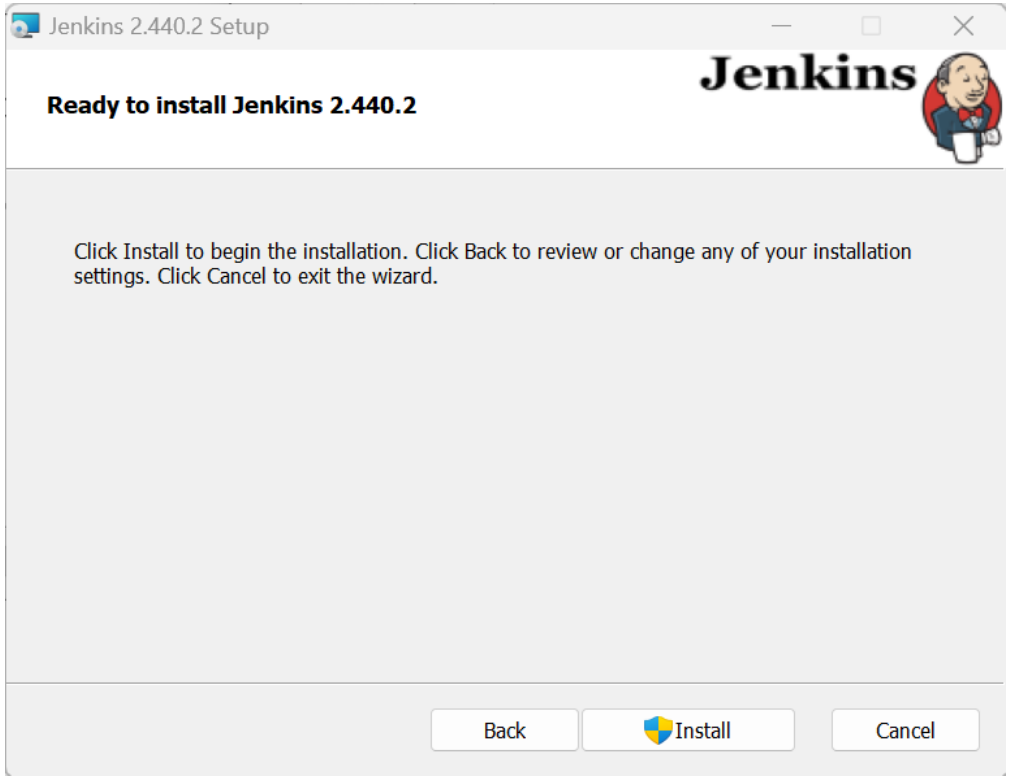
Jenkins 설치

- 2. Jenkins 설치



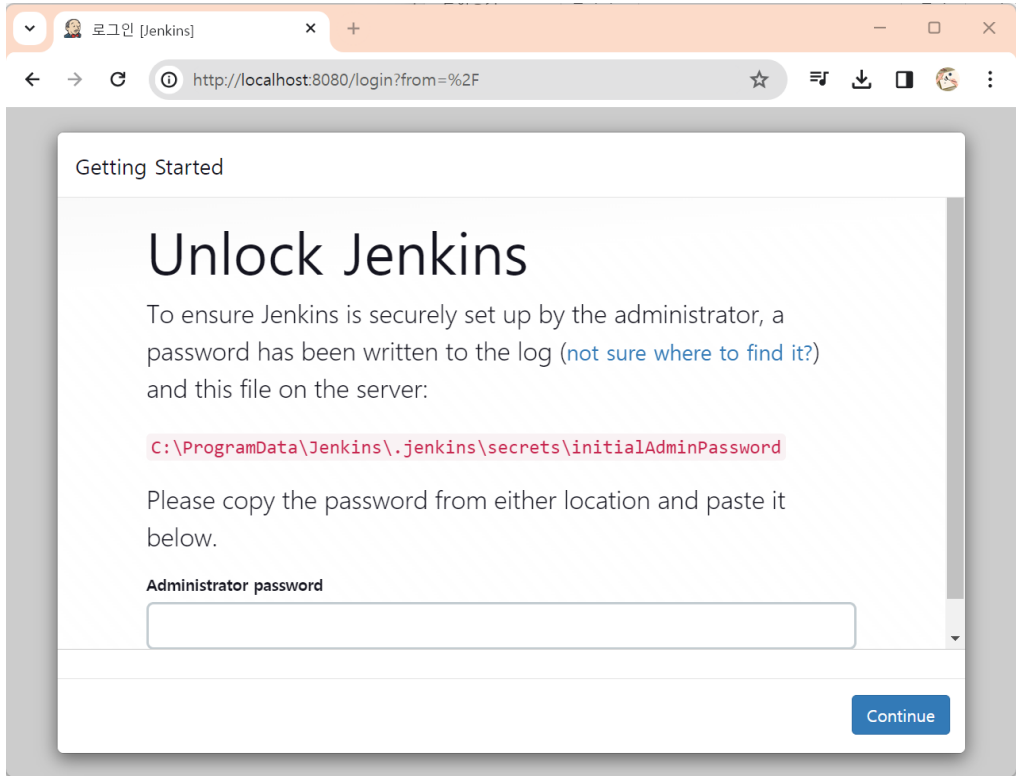
Jenkins 설치

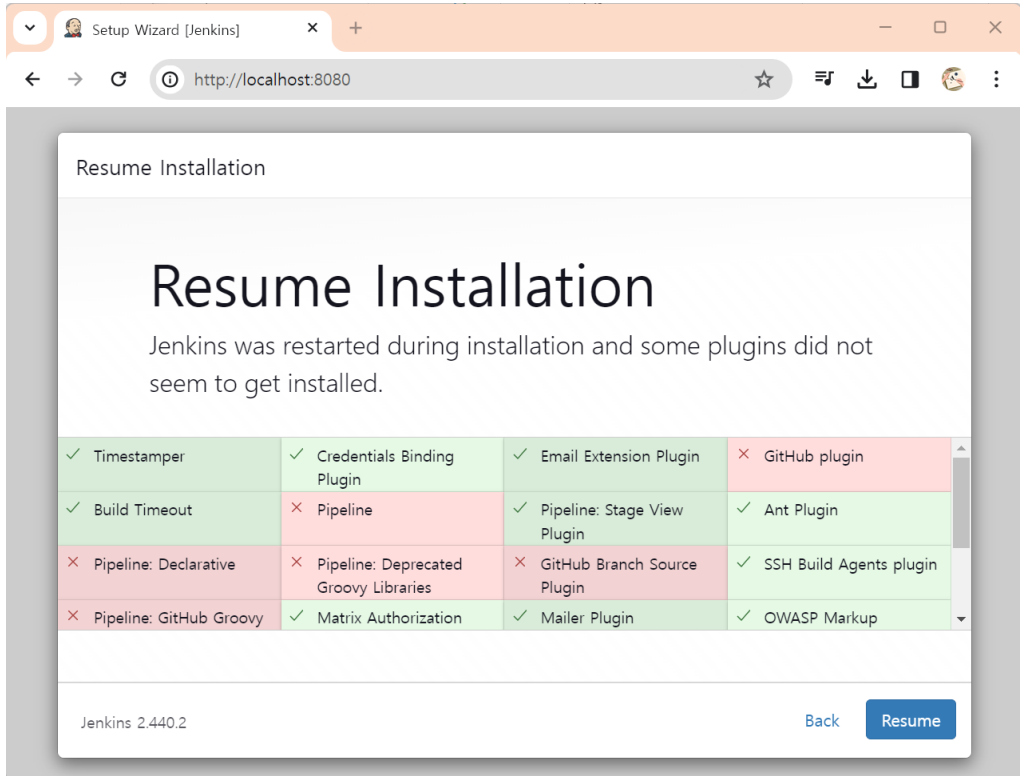
- 2. Jenkins 설치



Jenkins 설치

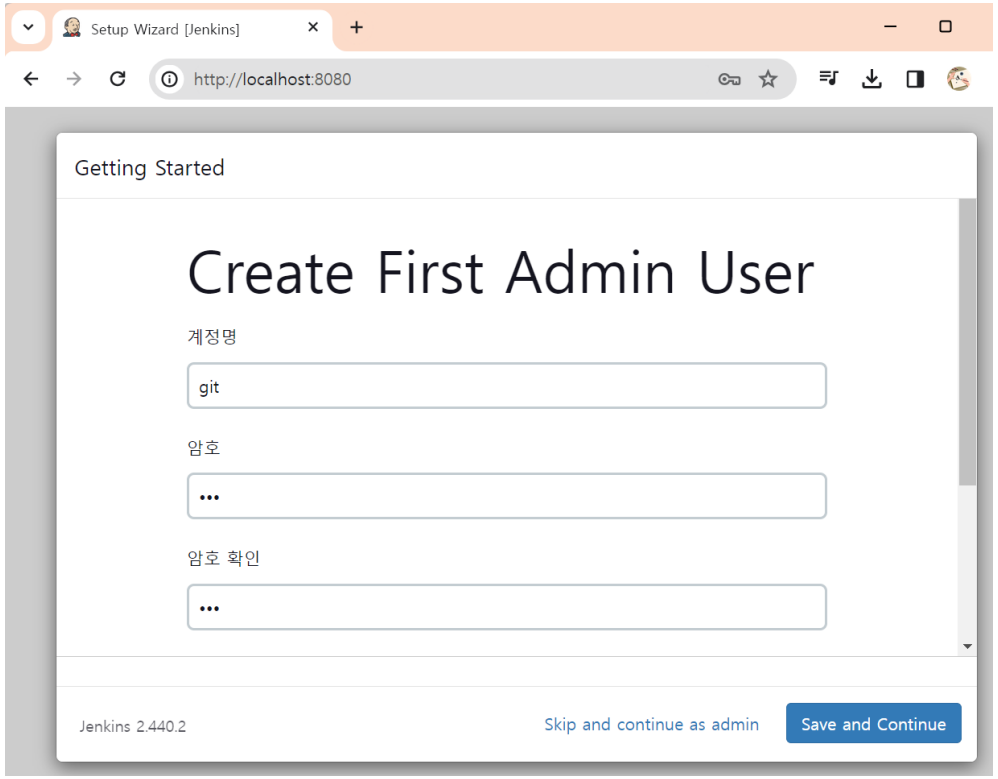
- 2. Jenkins 설치

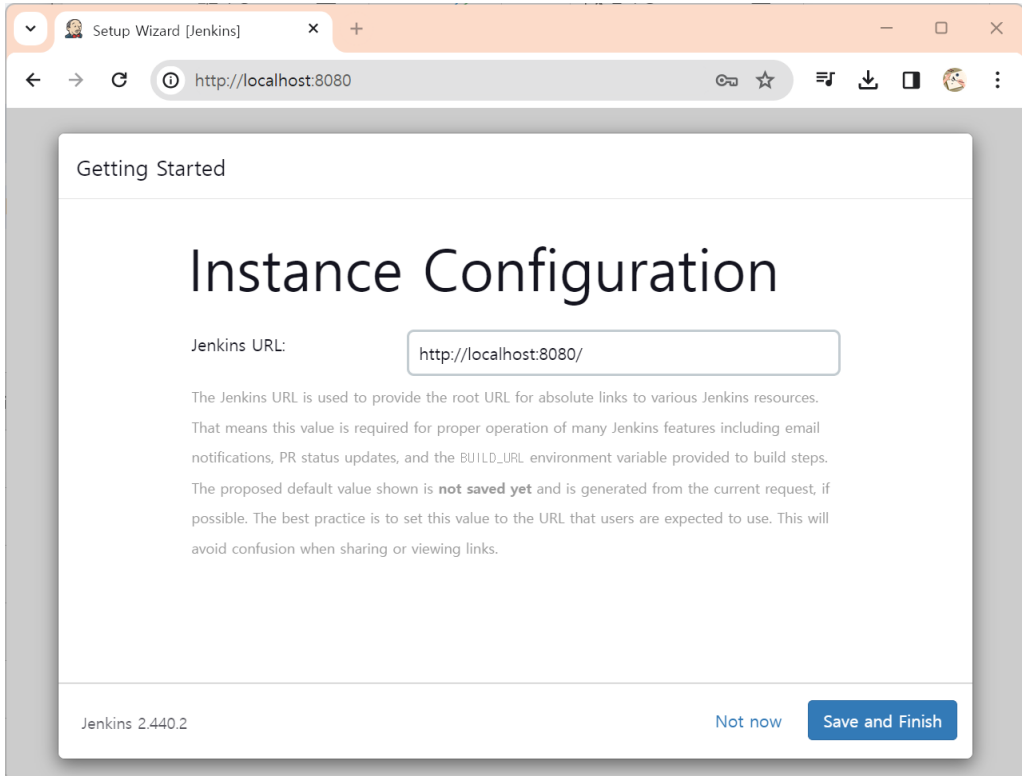




Jenkins 설치

- 2. Jenkins 설치
  - User.home: C:\ProgramData\Jenkins\.Jenkins
    - 플러그인 및 설정 정보 위치
  - Install.hom: C:\Program Files\Jenkins
    - 설치 경로로 서비스 시작 및 종료 가능





GIThub –Jenkins

❖ **GitHub 액세스 토큰(access token) 생성**

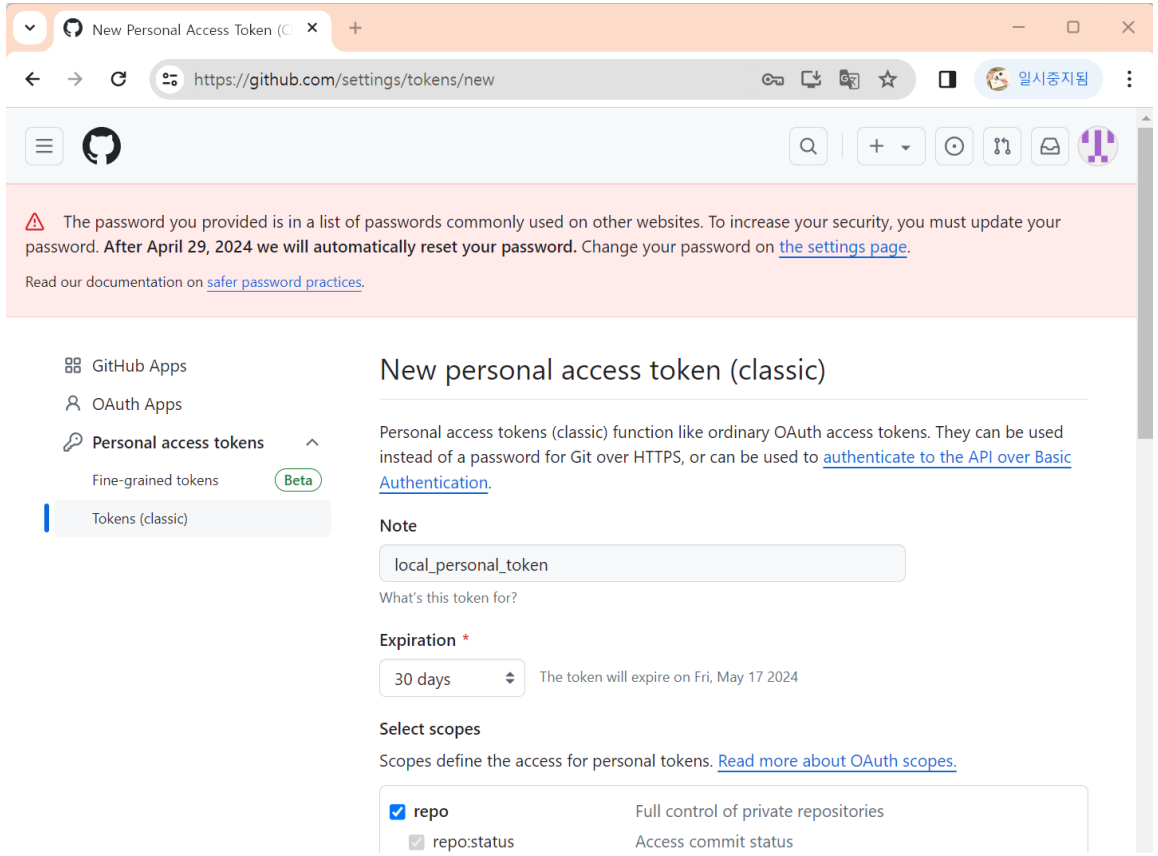
- Settings > Developer settings > Personal access tokens
- 화면에 보이는 Generate new token 버튼 확인

- 만료 시간은 무제한으로 설정
- 해당 토큰으로 접근할 수 있는 scope를 지정

(repo, admin:repo_hook scope 선택)

- 토큰 생성 완료

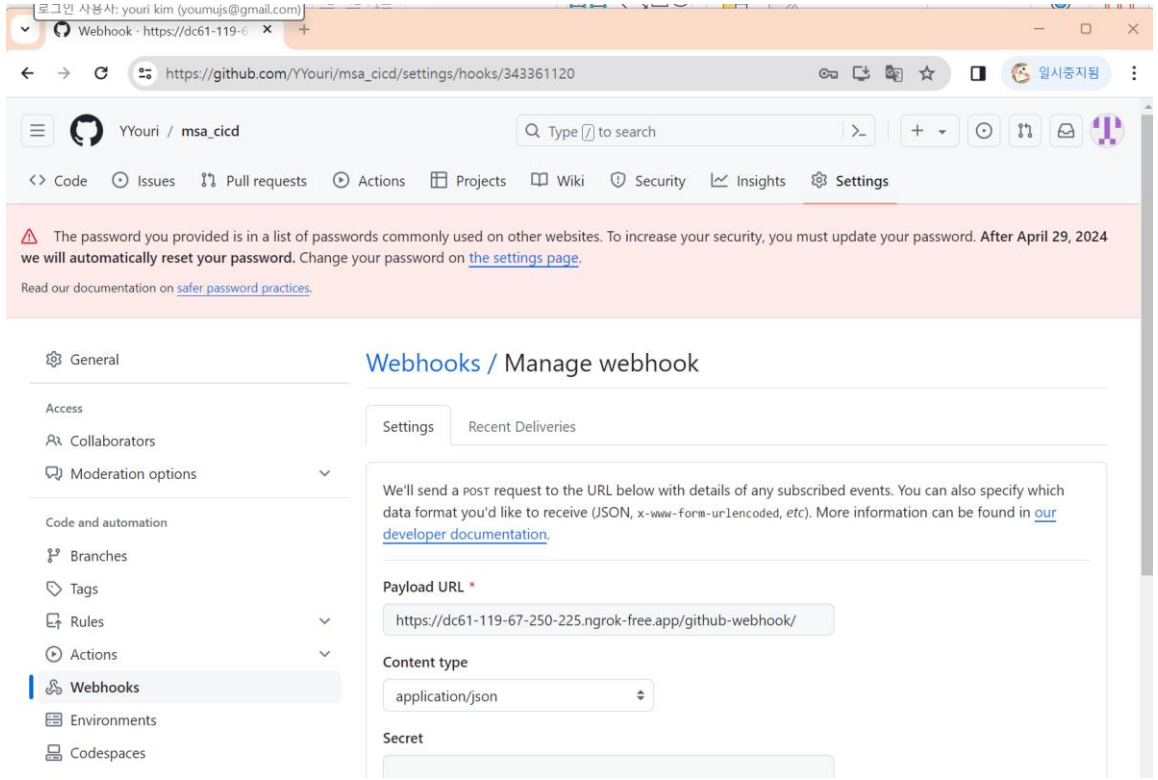
(토큰 분실 시 다시 생성 해야 하니
다른 곳에 저장 해놓기)



GIThub –Jenkins

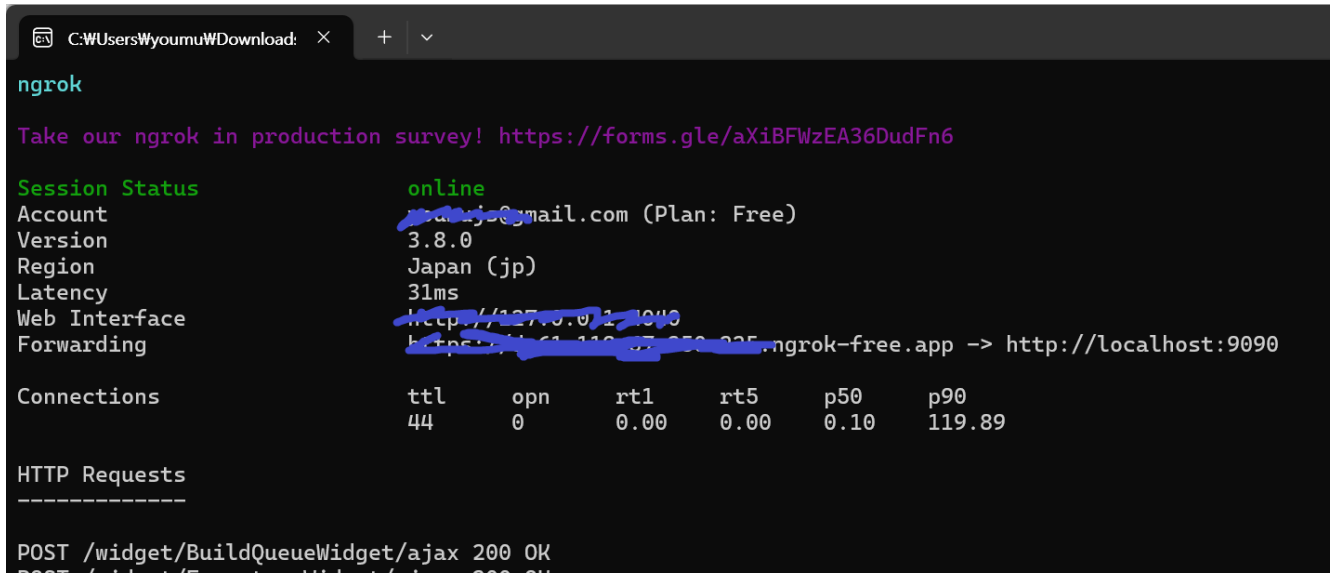
❖ **GitHub 개인 레포지토리 webhook 설정**

- Settings > Webhooks
- Add webhook 버튼을 클릭
- ngrok 어플리케이션을 통해 외부에서 접근할 수 있는 도메인을 사용



ngrok 설치

- 로컬 컴퓨터의 개발 환경을 인터넷으로 공유해주는 툴로
- Github에서 Webhook을 사용하려면 Jenkins에 DNS 설정이 되어있어서 외부에서도 연결이 가능
- https://ngrok.com/download
- ngrok.exe http 9090

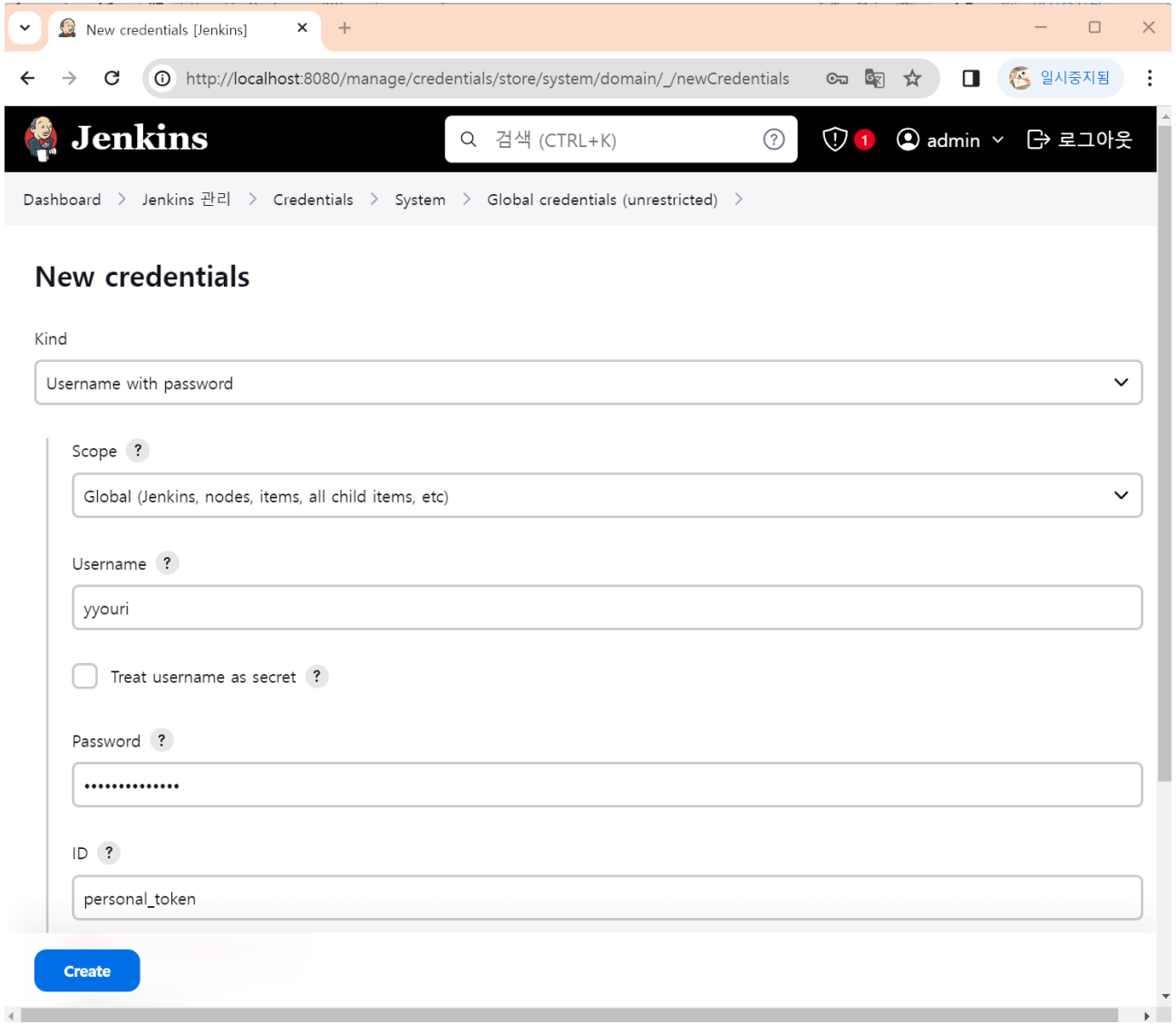


참고) err_ngrok_4018 발생의 경우

- https://dashboard.ngrok.com/get-started/your-authtoken 따라 설정

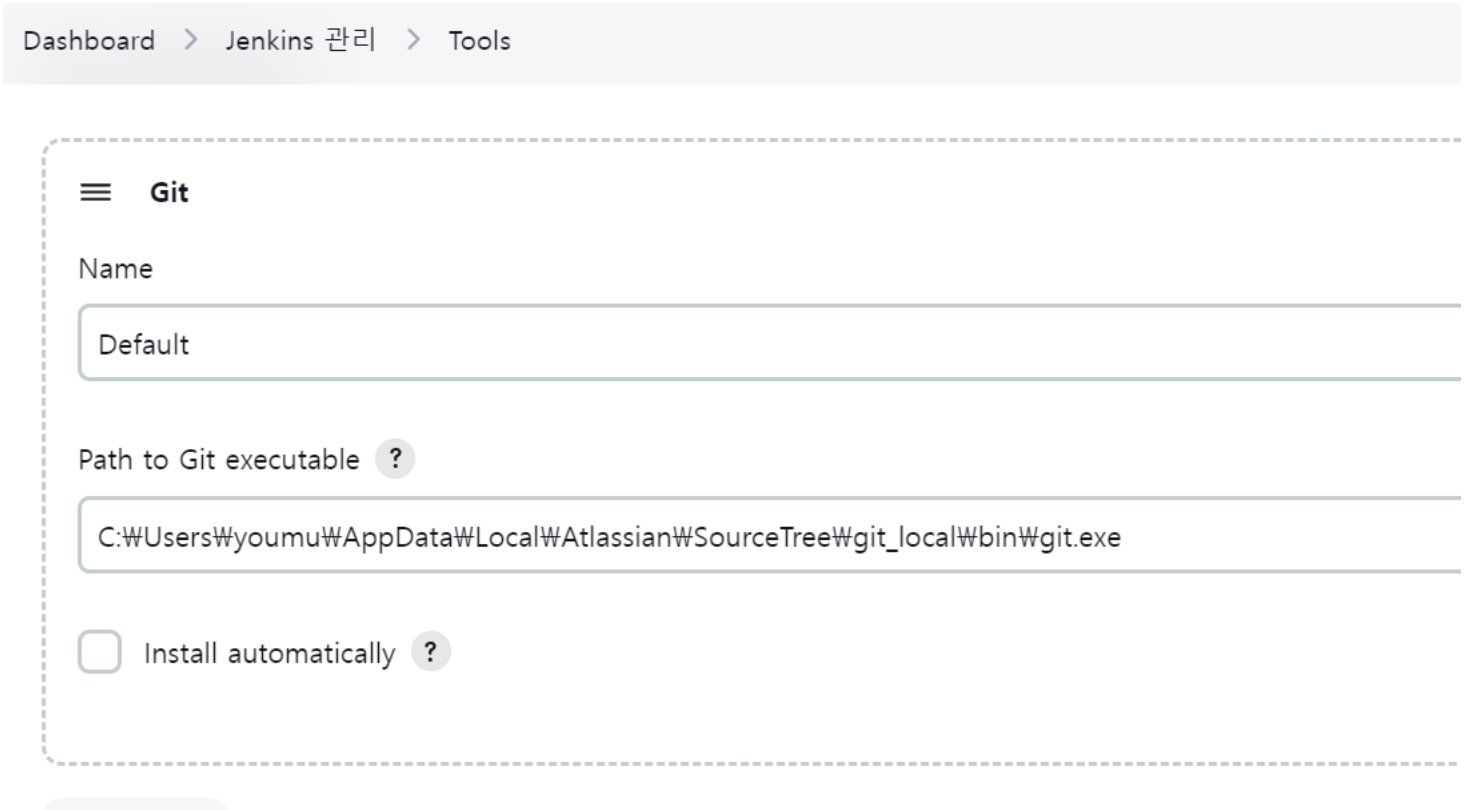
GIThub –Jenkins

- 3. 정보 준비 -인증정보를 기입
- Username = github id
- Password = github access token



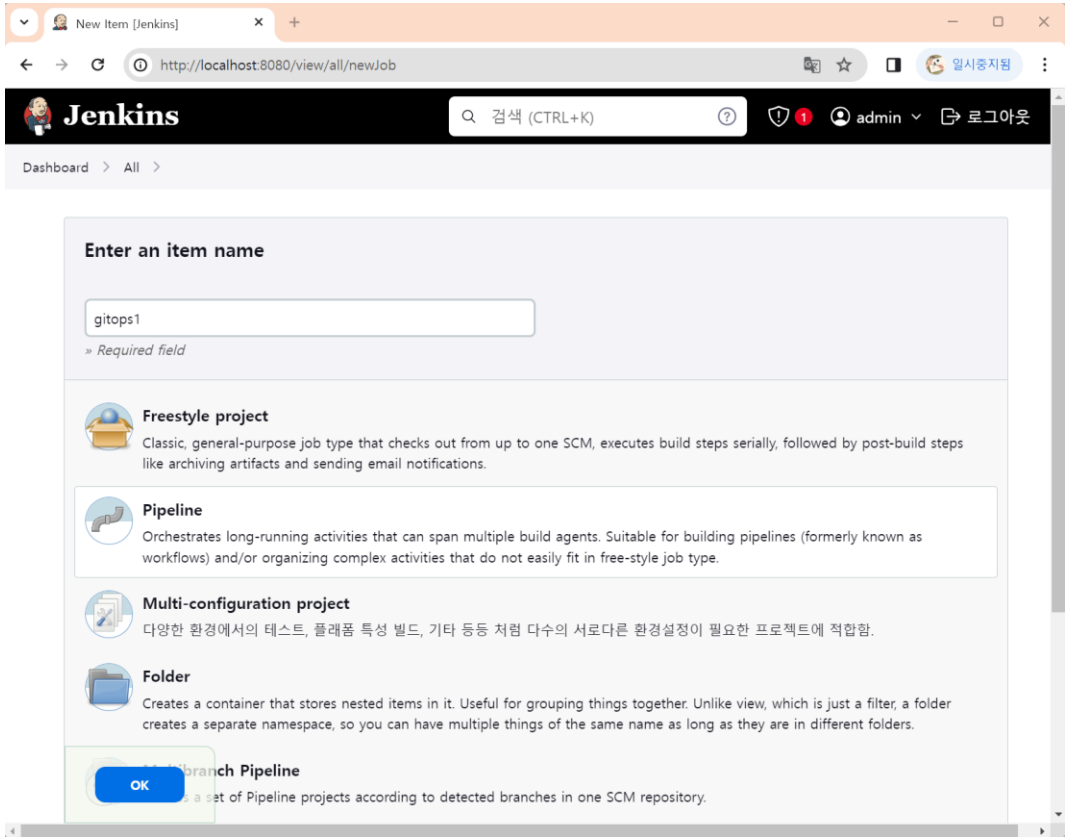
CI/CD 구축

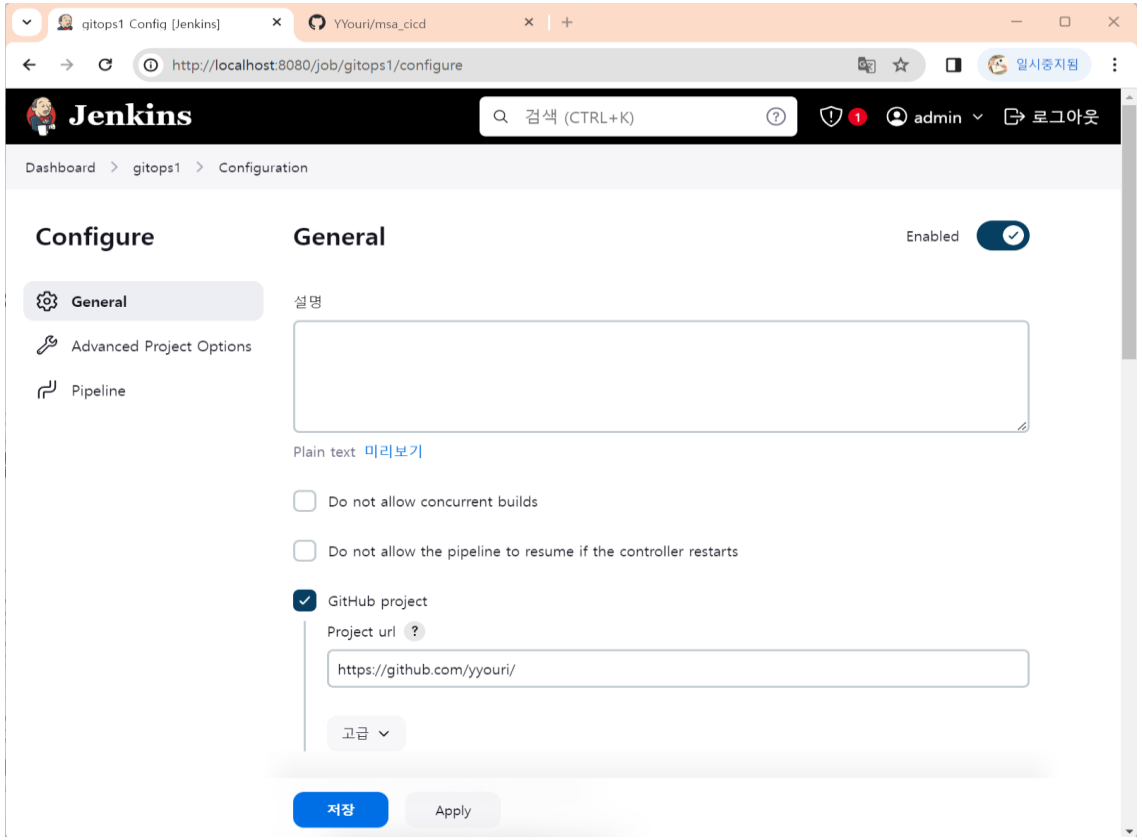
- 3. 설정(소스트리 설치 경우 git 경로)



CI/CD 구축

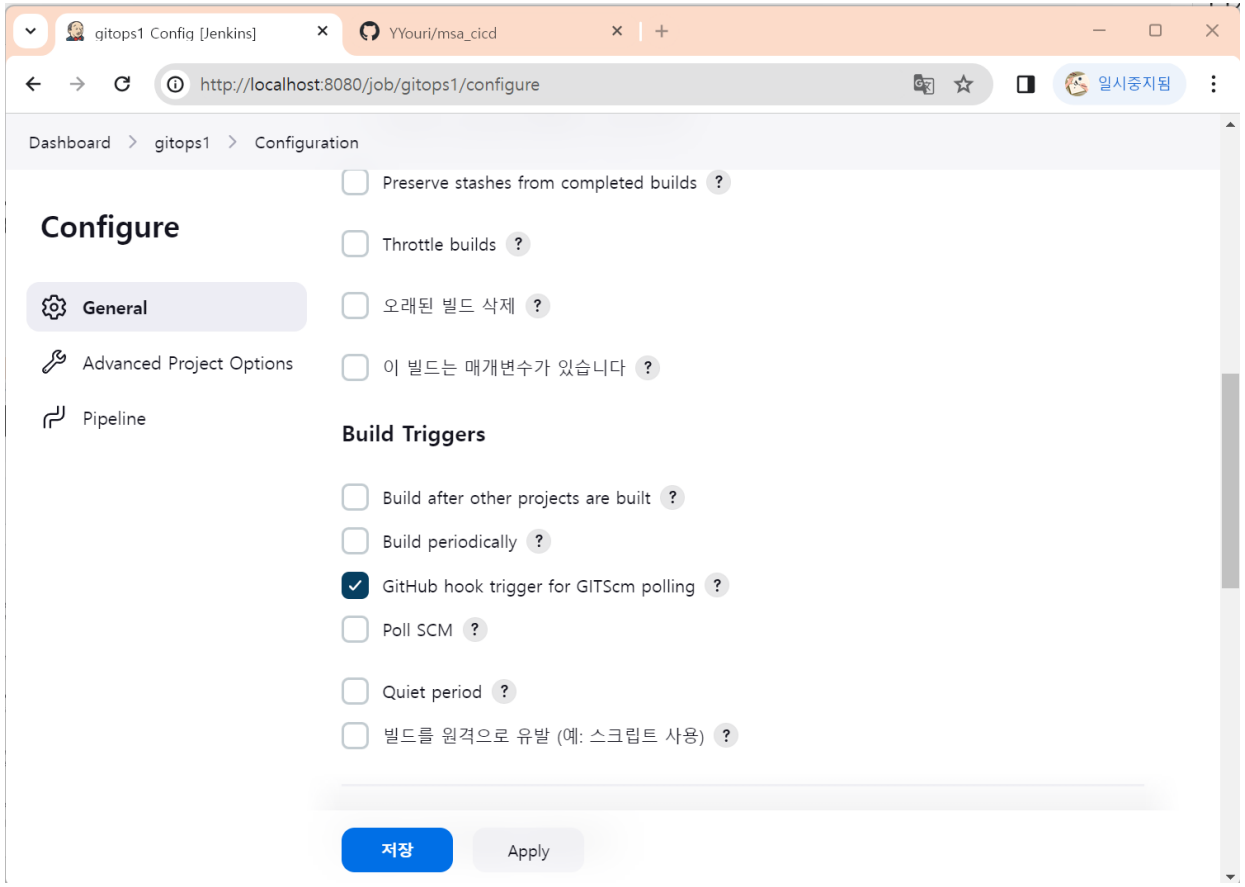
- 4. 파이프라인 만들기

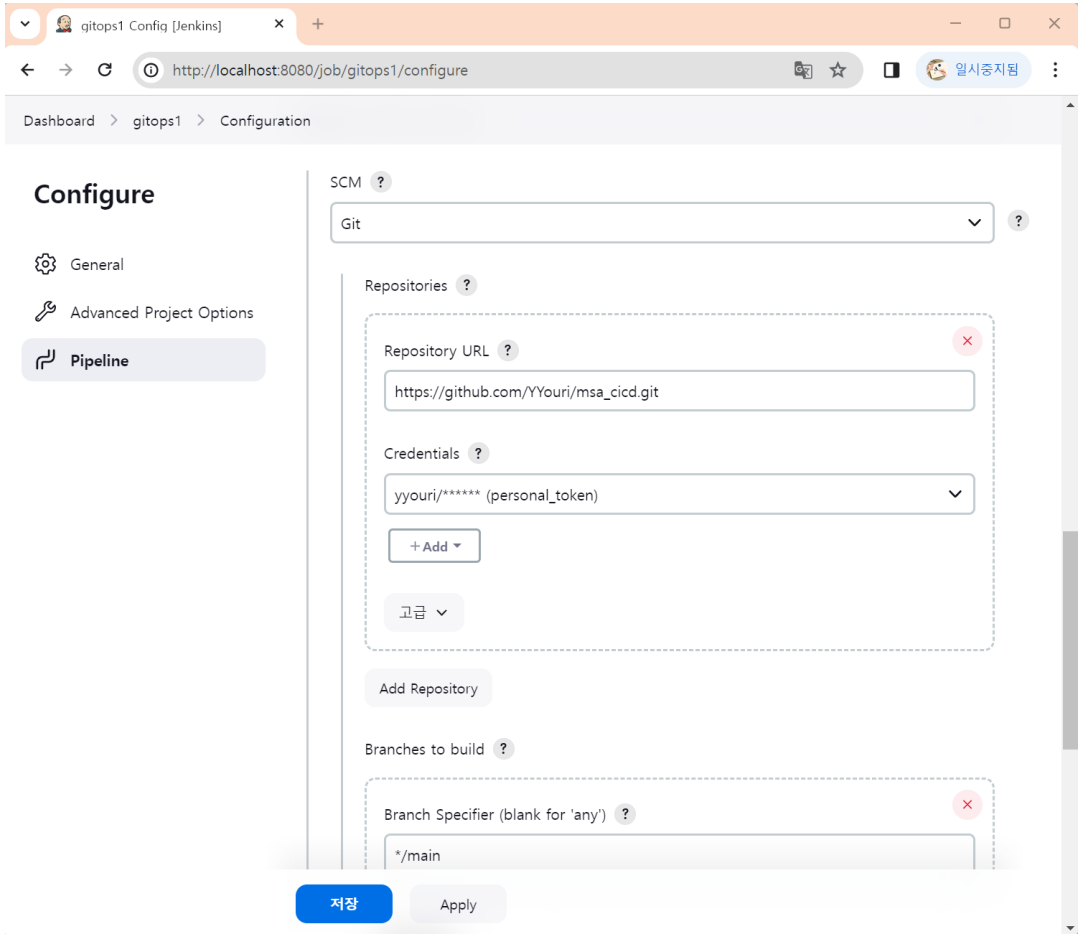




CI/CD 구축

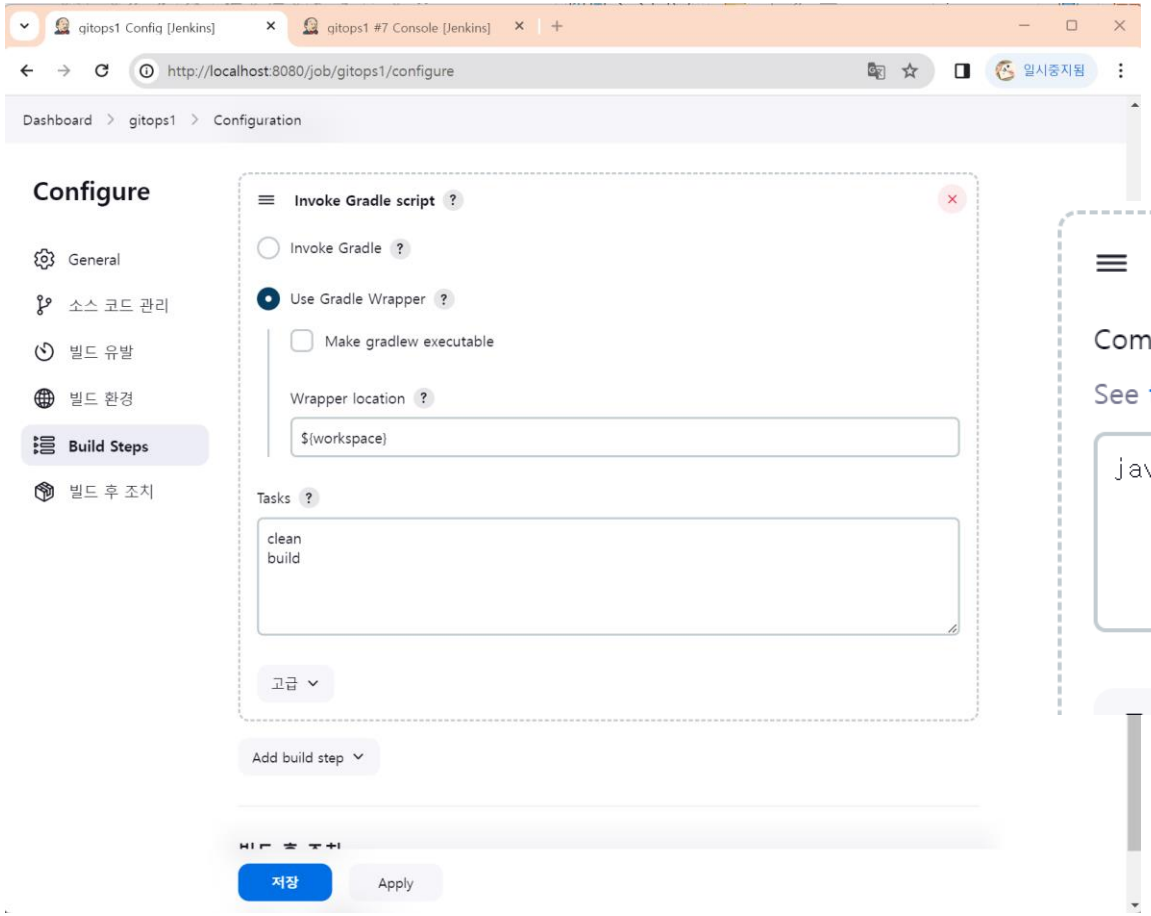
- 4. 파이프라인 만들기

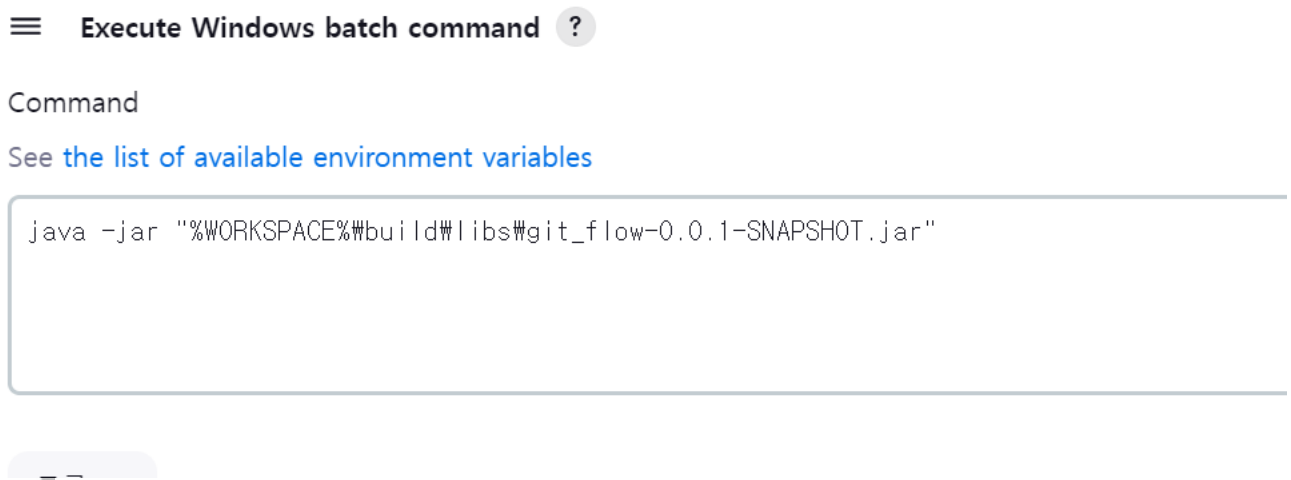




CI/CD 구축

- 4. 파이프라인 만들기





CI/CD 구축

- 4. 파이프라인 만들기

All +

S	W	Name ↓	최근 성공	최근 실패
⊗	⛈	gitops1	13 min #24	5 min 27 sec #26

아이콘: S M L