Bitbucket Pipelines를 이용한 CI/CD

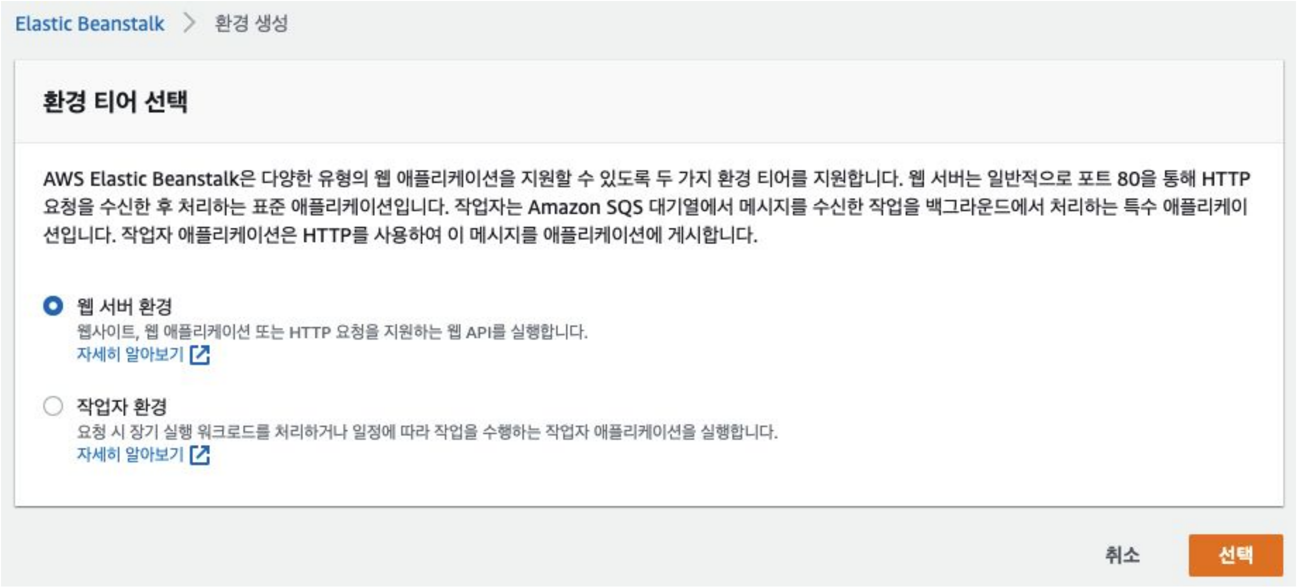
AWS Elastic Beanstalk

BUZZ BEATERZ

순서

1. **AWS Elastic Beanstalk 환경 생성**
2. **Bitbucket Repository 생성**
3. **Intellij bitbucket 연동**
4. **Spring Boot project init push**
5. **Initial Bitbucket Pipelines configuration**
6. **push test**
7. **branch dev, prod 분리 및 테스트**

AWS Elastic Beanstalk 환경 생성



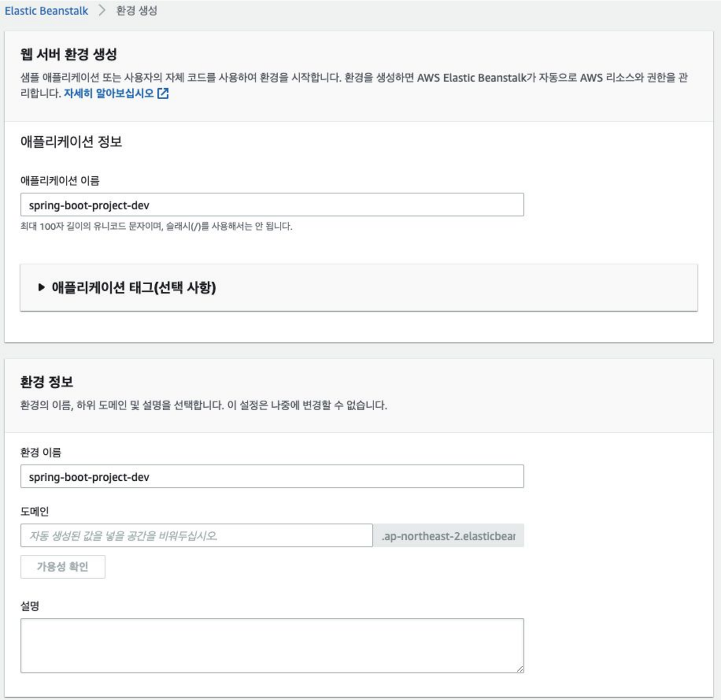
환경 티어 선택

AWS Elastic Beanstalk은 다양한 유형의 웹 애플리케이션을 지원할 수 있도록 두 가지 환경 티어를 지원합니다. 웹 서버는 일반적으로 포트 80을 통해 HTTP 요청을 수신한 후 처리하는 표준 애플리케이션입니다. 작업자는 Amazon SQS 대기열에서 메시지를 수신한 작업을 백그라운드에서 처리하는 특수 애플리케이션입니다. 작업자 애플리케이션은 HTTP를 사용하여 이 메시지를 애플리케이션에 게시합니다.

● 웹 서버 환경
웹사이트, 웹 애플리케이션 또는 HTTP 요청을 지원하는 웹 API를 실행합니다.
자세히 알아보기

○ 작업자 환경
요청 시 장기 실행 워크로드를 처리하거나 일정에 따라 작업을 수행하는 작업자 애플리케이션을 실행합니다.
자세히 알아보기

AWS Elastic Beanstalk 환경 생성



웹 서버 환경 생성

샘플 애플리케이션 또는 사용자의 자체 코드를 사용하여 환경을 시작합니다. 환경을 생성하면 AWS Elastic Beanstalk가 자동으로 AWS 리소스와 권한을 관리합니다. 자세히 알아보십시오

애플리케이션 정보

애플리케이션 이름: spring-boot-project-dev

최대 100자 길이의 유니코드 문자이며, 슬래시(/)를 사용해서는 안 됩니다.

▸ 애플리케이션 태그(선택 사항)

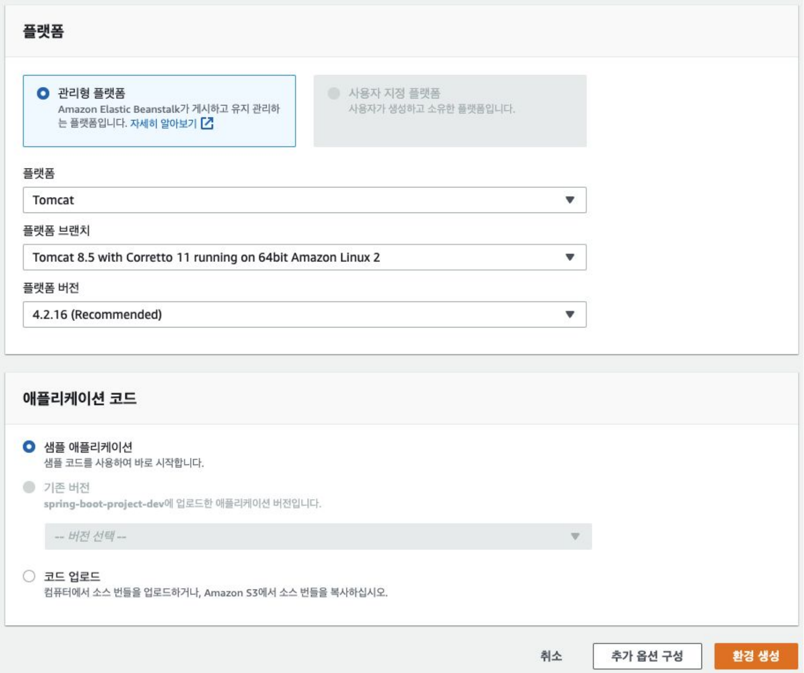
환경 정보

환경의 이름, 하위 도메인 및 설명을 선택합니다. 이 설정은 나중에 변경할 수 없습니다.

환경 이름: spring-boot-project-dev

도메인: 자동 생성된 값을 넣을 공간을 비워두십시오. .ap-northeast-2.elasticbear

설명:



플랫폼

● 관리형 플랫폼
Amazon Elastic Beanstalk가 게시하고 유지 관리하는 플랫폼입니다. 자세히 알아보기

○ 사용자 지정 플랫폼
사용자가 생성하고 소유한 플랫폼입니다.

플랫폼: Tomcat

플랫폼 브랜치: Tomcat 8.5 with Corretto 11 running on 64bit Amazon Linux 2

플랫폼 버전: 4.2.16 (Recommended)

애플리케이션 코드

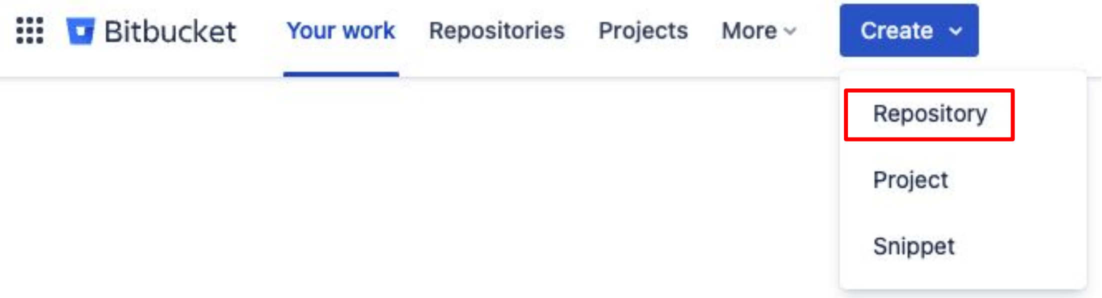
● 샘플 애플리케이션
샘플 코드를 사용하여 바로 시작합니다.

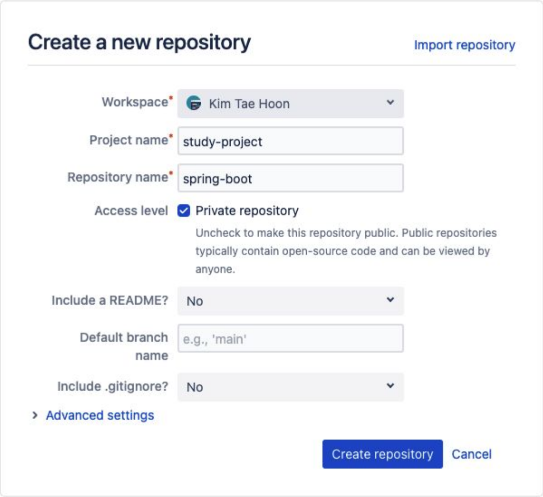
○ 기존 버전
spring-boot-project-dev에 업로드한 애플리케이션 버전입니다.

-- 버전 선택 --

○ 코드 업로드
컴퓨터에서 소스 번들을 업로드하거나, Amazon S3에서 소스 번들을 복사하십시오.

Bitbucket Repository 생성





Create a new repository

Workspace*	Kim Tae Hoon
Project name*	study-project
Repository name*	spring-boot
Access level	☑ Private repository Uncheck to make this repository public. Public repositories typically contain open-source code and can be viewed by anyone.
Include a README?	No
Default branch name	e.g., 'main'
Include .gitignore?	No

Intellij bitbucket 연동

- ssh 키 생성 (macOS 기준)

```
$ ssh-keygen -t rsa -b 4096 -C "email@example.com"

Enter file in which to save the key
(/Users/kth/.ssh/’keyFileName’):
ex)/Users/kth/.ssh/email

# macOS
$ pbcopy < ~/.ssh/email.pub

# Windows
$ clip < ~/.ssh/email.pub
```

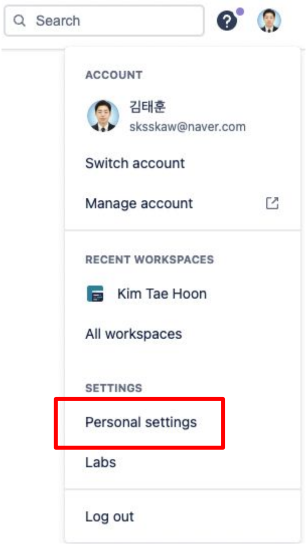
키생성

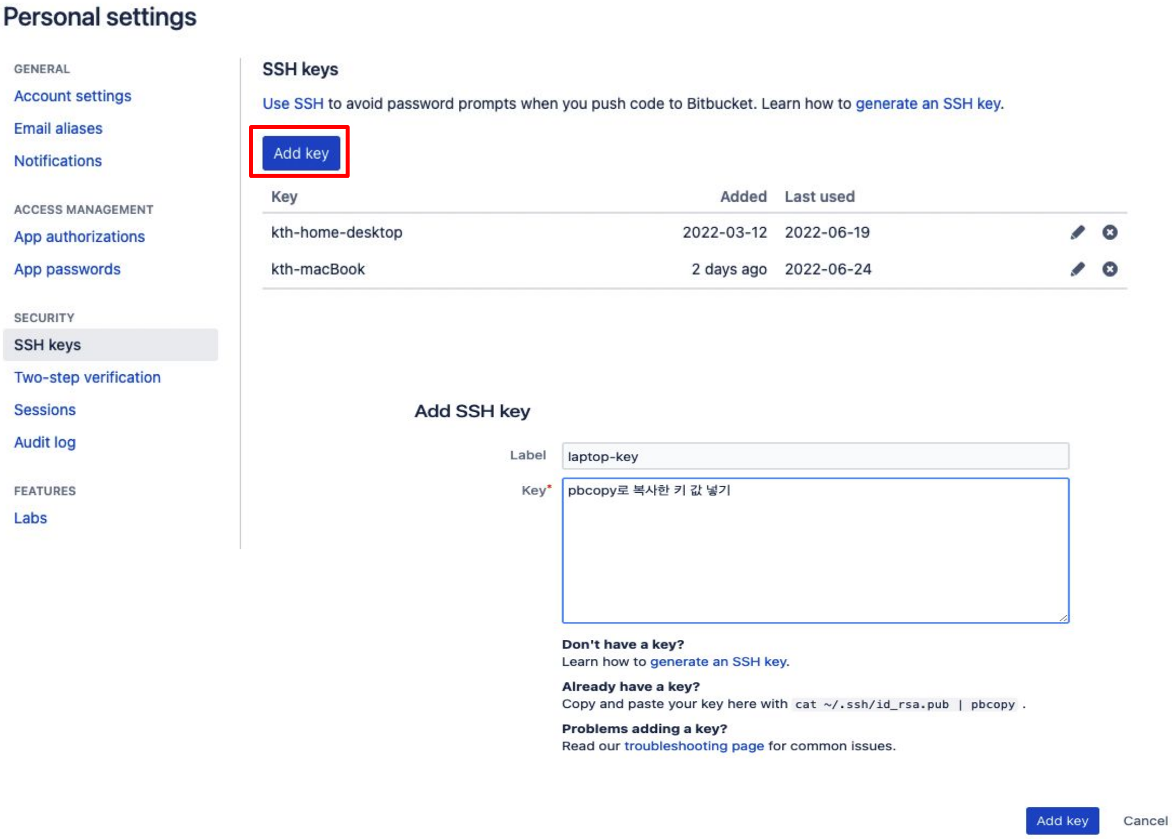
키 파일 저장위치, 이름 설정

공개키 복사

Intellij bitbucket 연동

- bitbucket ssh 키 설정





Use SSH to avoid password prompts when you push code to Bitbucket. Learn how to generate an SSH key.

Key	Added	Last used
kth-home-desktop	2022-03-12	2022-06-19
kth-macBook	2 days ago	2022-06-24

Label: laptop-key

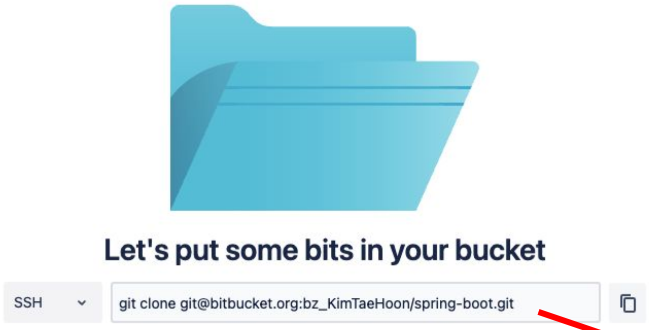
Key*: pbcopy로 복사한 키 값 넣기

Don't have a key?
Learn how to generate an SSH key.

Already have a key?
Copy and paste your key here with `cat ~/.ssh/id_rsa.pub | pbcopy` .

Problems adding a key?
Read our troubleshooting page for common issues.

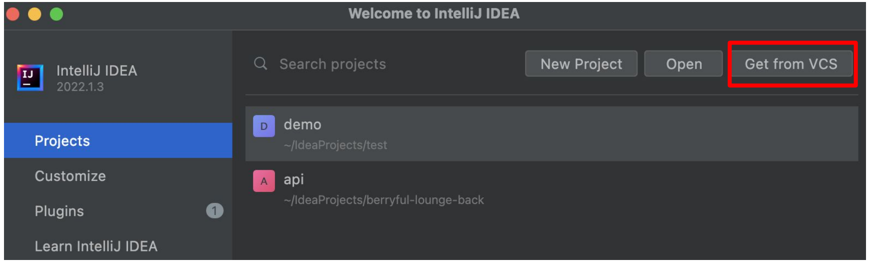
Intellij bitbucket 연동



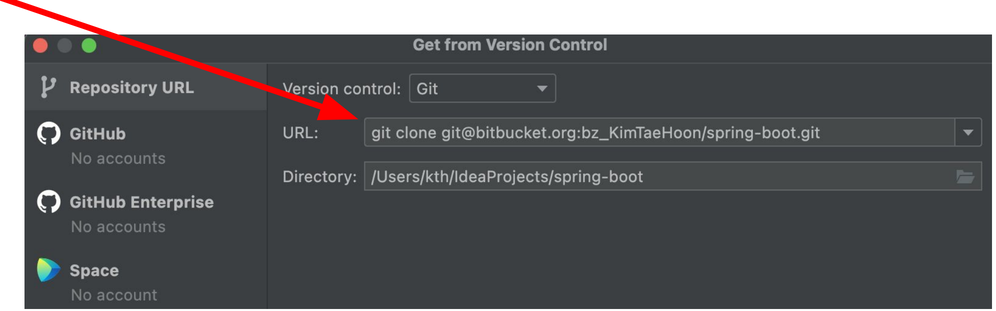
Let's put some bits in your bucket

SSH

```
git clone git@bitbucket.org:bz_KimTaeHoon/spring-boot.git
```



Welcome to IntelliJ IDEA



Get from Version Control

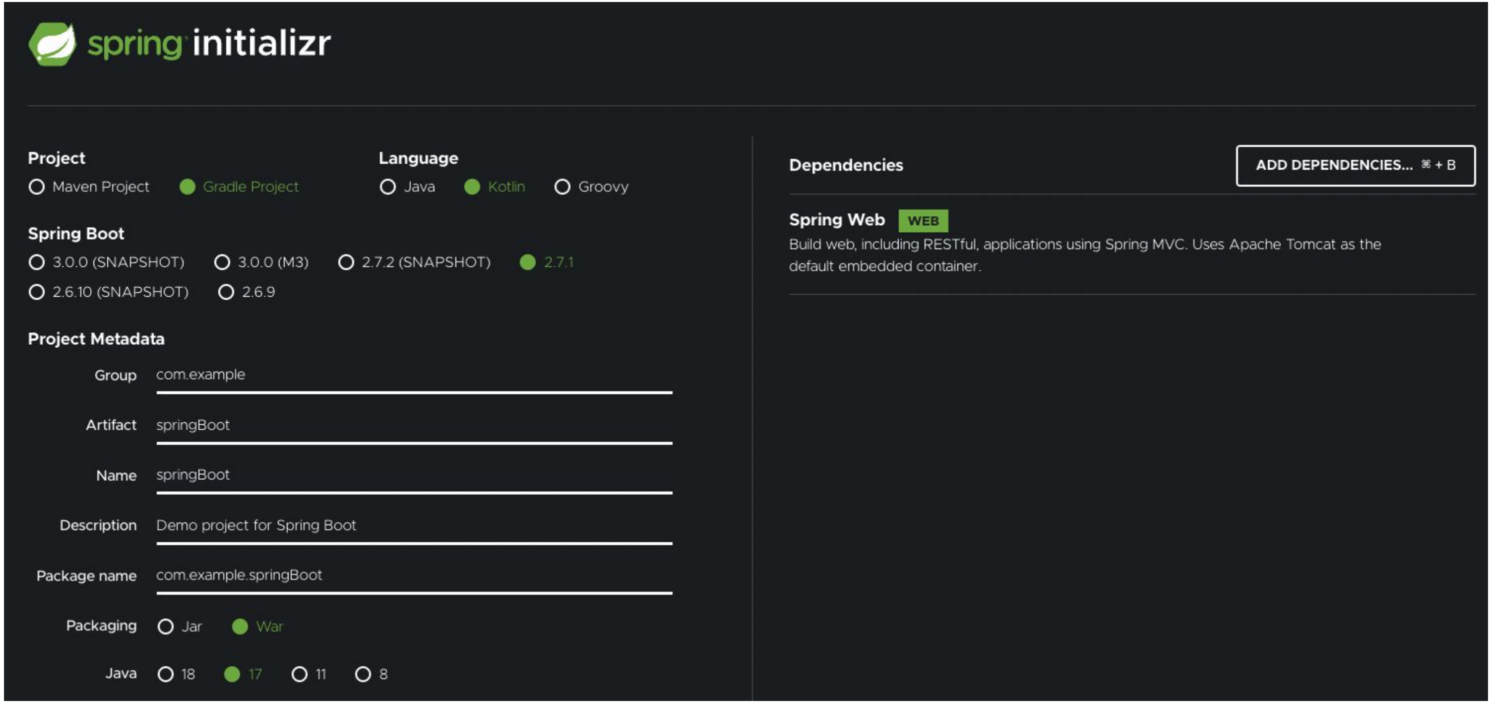
Version control: Git

URL: git clone git@bitbucket.org:bz_KimTaeHoon/spring-boot.git

Directory: /Users/kth/IdeaProjects/spring-boot

Spring Boot project init push

https://start.spring.io/ 에서 스프링 프로젝트 생성



spring initializr

Project
○ Maven Project ● Gradle Project

Language
○ Java ● Kotlin ○ Groovy

Spring Boot
○ 3.0.0 (SNAPSHOT) ○ 3.0.0 (M3) ○ 2.7.2 (SNAPSHOT) ● 2.7.1
○ 2.6.10 (SNAPSHOT) ○ 2.6.9

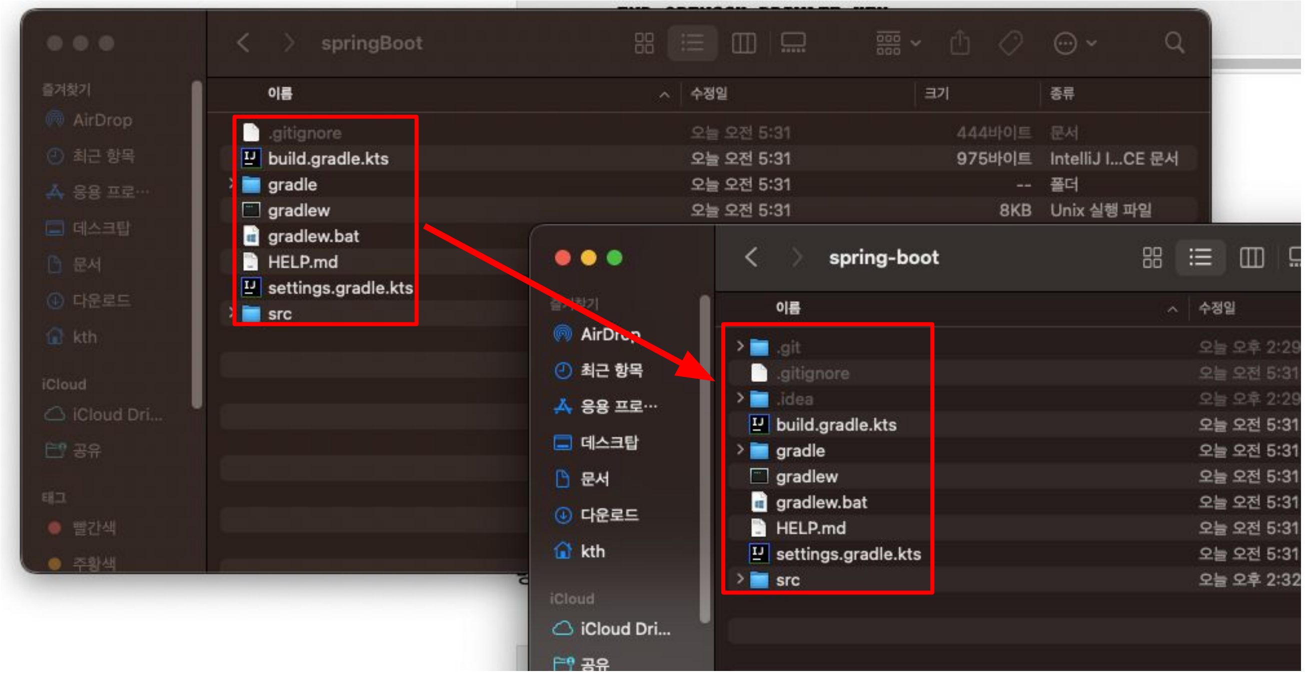
Project Metadata

Group	com.example
Artifact	springBoot
Name	springBoot
Description	Demo project for Spring Boot
Package name	com.example.springBoot
Packaging	○ Jar ● War
Java	○ 18 ● 17 ○ 11 ○ 8

Dependencies

Spring Web WEB
Build web, including RESTful, applications using Spring MVC. Uses Apache Tomcat as the default embedded container.

Spring Boot project init push



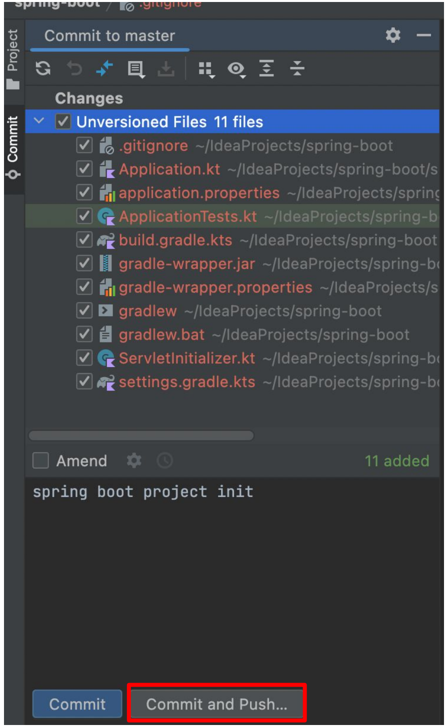
springBoot

이름	수정일	크기	종류
.gitignore	오늘 오전 5:31	444바이트	문서
build.gradle.kts	오늘 오전 5:31	975바이트	IntelliJ I...CE 문서
gradle	오늘 오전 5:31	--	폴더
gradlew	오늘 오전 5:31	8KB	Unix 실행 파일
gradlew.bat			
HELP.md			
settings.gradle.kts			
src			

spring-boot

이름	수정일
.git	오늘 오후 2:29
.gitignore	오늘 오전 5:31
.idea	오늘 오후 2:29
build.gradle.kts	오늘 오전 5:31
gradle	오늘 오전 5:31
gradlew	오늘 오전 5:31
gradlew.bat	오늘 오전 5:31
HELP.md	오늘 오전 5:31
settings.gradle.kts	오늘 오전 5:31
src	오늘 오후 2:32

Spring Boot project init push

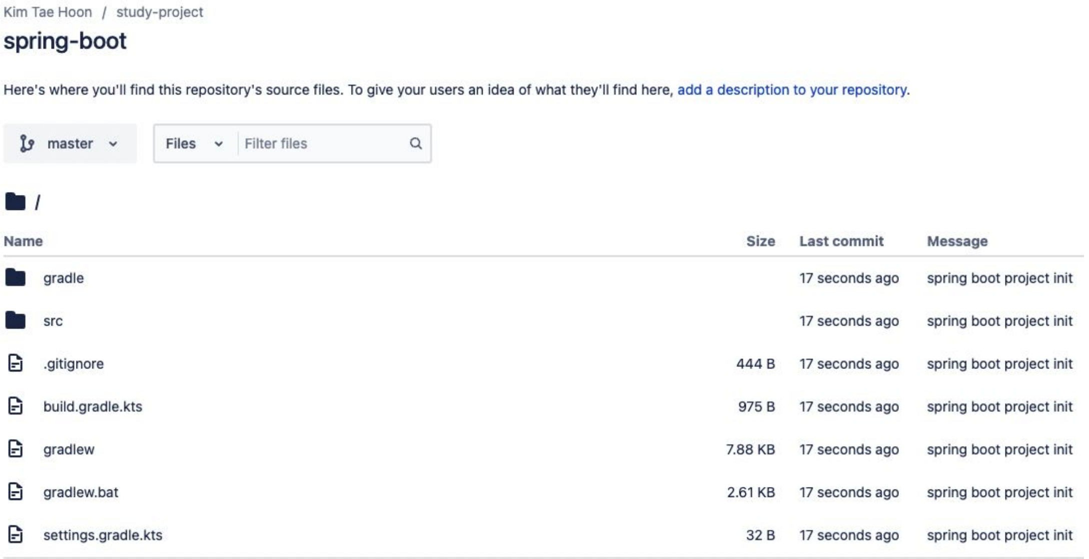


☑ Unversioned Files 11 files

- ☑ .gitignore ~/IdeaProjects/spring-boot
- ☑ Application.kt ~/IdeaProjects/spring-boot/s
- ☑ application.properties ~/IdeaProjects/spring
- ☑ ApplicationTests.kt ~/IdeaProjects/spring-b
- ☑ build.gradle.kts ~/IdeaProjects/spring-boot
- ☑ gradle-wrapper.jar ~/IdeaProjects/spring-b
- ☑ gradle-wrapper.properties ~/IdeaProjects/s
- ☑ gradlew ~/IdeaProjects/spring-boot
- ☑ gradlew.bat ~/IdeaProjects/spring-boot
- ☑ ServletInitializer.kt ~/IdeaProjects/spring-b
- ☑ settings.gradle.kts ~/IdeaProjects/spring-b

□ Amend 11 added

```
spring boot project init
```

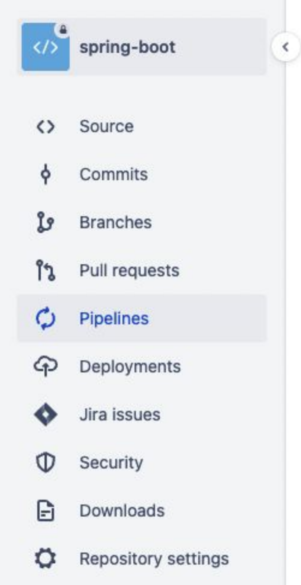


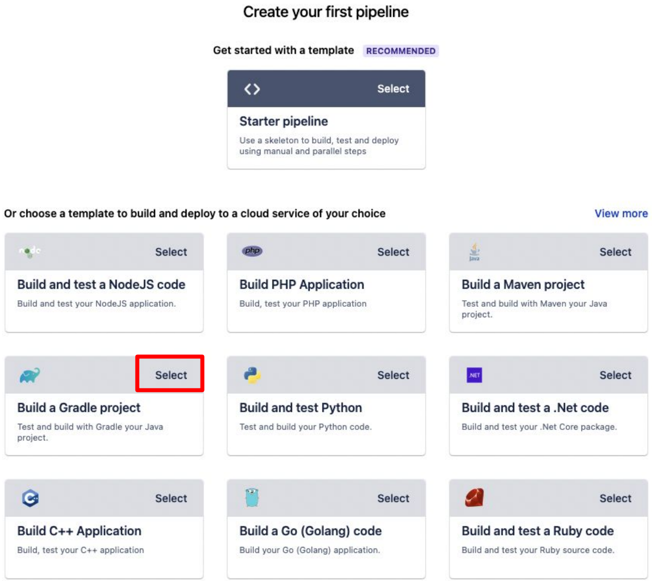
spring-boot

Here's where you'll find this repository's source files. To give your users an idea of what they'll find here, add a description to your repository.

Name	Size	Last commit	Message
gradle		17 seconds ago	spring boot project init
src		17 seconds ago	spring boot project init
.gitignore	444 B	17 seconds ago	spring boot project init
build.gradle.kts	975 B	17 seconds ago	spring boot project init
gradlew	7.88 KB	17 seconds ago	spring boot project init
gradlew.bat	2.61 KB	17 seconds ago	spring boot project init
settings.gradle.kts	32 B	17 seconds ago	spring boot project init

Initial Bitbucket Pipelines configuration





Create your first pipeline

Get started with a template RECOMMENDED

Starter pipeline
Use a skeleton to build, test and deploy using manual and parallel steps

Or choose a template to build and deploy to a cloud service of your choice

Build and test a NodeJS code
Build and test your NodeJS application.

Build PHP Application
Build, test your PHP application

Build a Maven project
Test and build with Maven your Java project.

Build a Gradle project
Test and build with Gradle your Java project.

Build and test Python
Test and build your Python code.

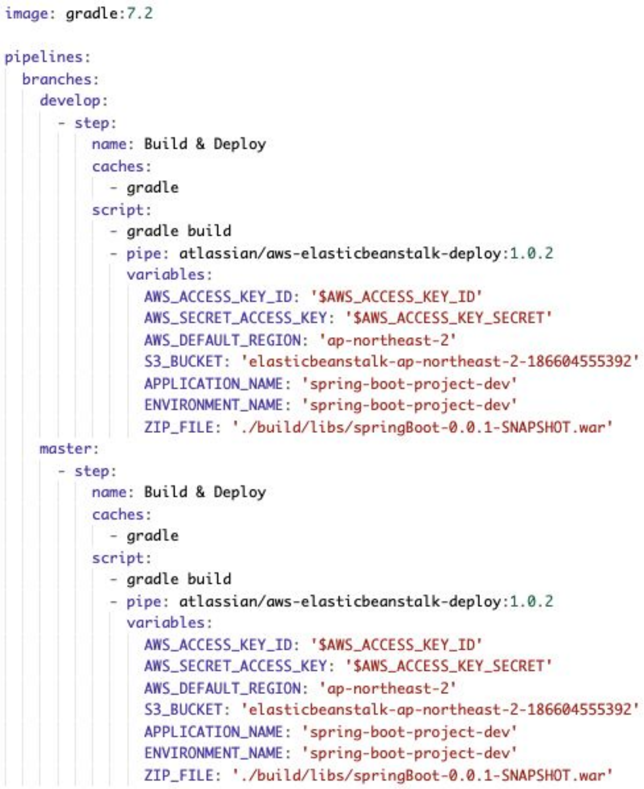
Build and test a .Net code
Build and test your .Net Core package.

Build C++ Application
Build, test your C++ application

Build a Go (Golang) code
Build your Go (Golang) application.

Build and test a Ruby code
Build and test your Ruby source code.

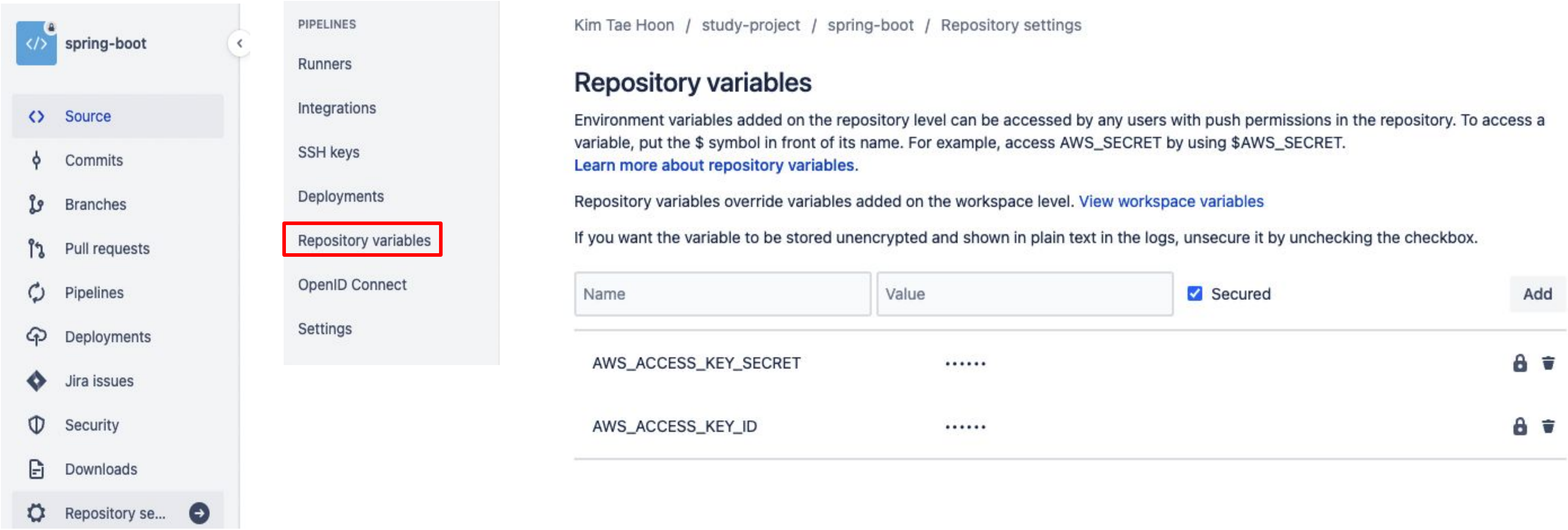
Initial Bitbucket Pipelines configuration



```
image: gradle:7.2

pipelines:
  branches:
    develop:
      - step:
          name: Build & Deploy
          caches:
            - gradle
          script:
            - gradle build
            - pipe: atlassian/aws-elasticbeanstalk-deploy:1.0.2
              variables:
                AWS_ACCESS_KEY_ID: '$AWS_ACCESS_KEY_ID'
                AWS_SECRET_ACCESS_KEY: '$AWS_ACCESS_KEY_SECRET'
                AWS_DEFAULT_REGION: 'ap-northeast-2'
                S3_BUCKET: 'elasticbeanstalk-ap-northeast-2-186604555392'
                APPLICATION_NAME: 'spring-boot-project-dev'
                ENVIRONMENT_NAME: 'spring-boot-project-dev'
                ZIP_FILE: './build/libs/springBoot-0.0.1-SNAPSHOT.war'
    master:
      - step:
          name: Build & Deploy
          caches:
            - gradle
          script:
            - gradle build
            - pipe: atlassian/aws-elasticbeanstalk-deploy:1.0.2
              variables:
                AWS_ACCESS_KEY_ID: '$AWS_ACCESS_KEY_ID'
                AWS_SECRET_ACCESS_KEY: '$AWS_ACCESS_KEY_SECRET'
                AWS_DEFAULT_REGION: 'ap-northeast-2'
                S3_BUCKET: 'elasticbeanstalk-ap-northeast-2-186604555392'
                APPLICATION_NAME: 'spring-boot-project-dev'
                ENVIRONMENT_NAME: 'spring-boot-project-dev'
                ZIP_FILE: './build/libs/springBoot-0.0.1-SNAPSHOT.war'
```

Initial Bitbucket Pipelines configuration



Kim Tae Hoon / study-project / spring-boot / Repository settings

Repository variables

Environment variables added on the repository level can be accessed by any users with push permissions in the repository. To access a variable, put the $ symbol in front of its name. For example, access AWS_SECRET by using $AWS_SECRET.
Learn more about repository variables.

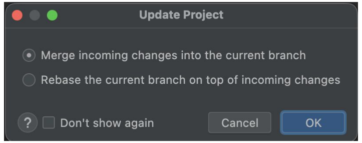
Repository variables override variables added on the workspace level. View workspace variables

If you want the variable to be stored unencrypted and shown in plain text in the logs, unsecure it by unchecking the checkbox.

Name | Value | ☑ Secured | Add

AWS_ACCESS_KEY_SECRET	••••••
AWS_ACCESS_KEY_ID	••••••

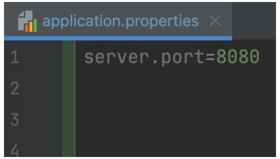
push test



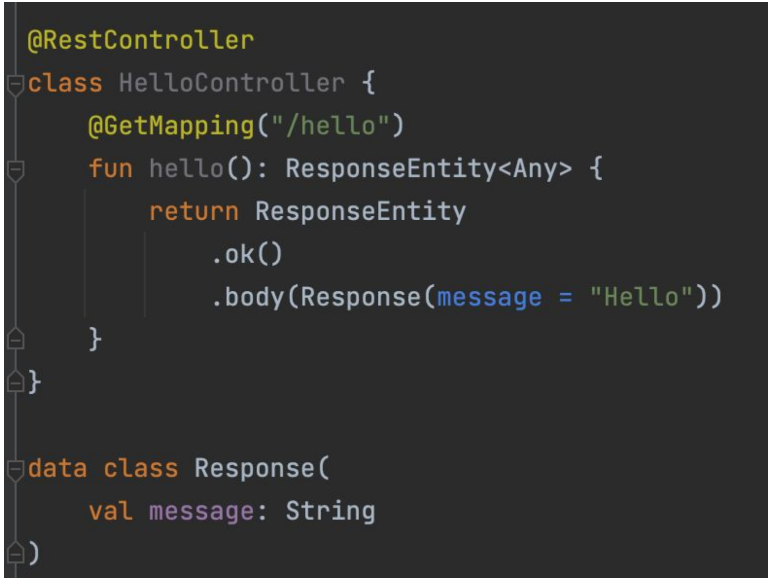
Update Project

● Merge incoming changes into the current branch

○ Rebase the current branch on top of incoming changes

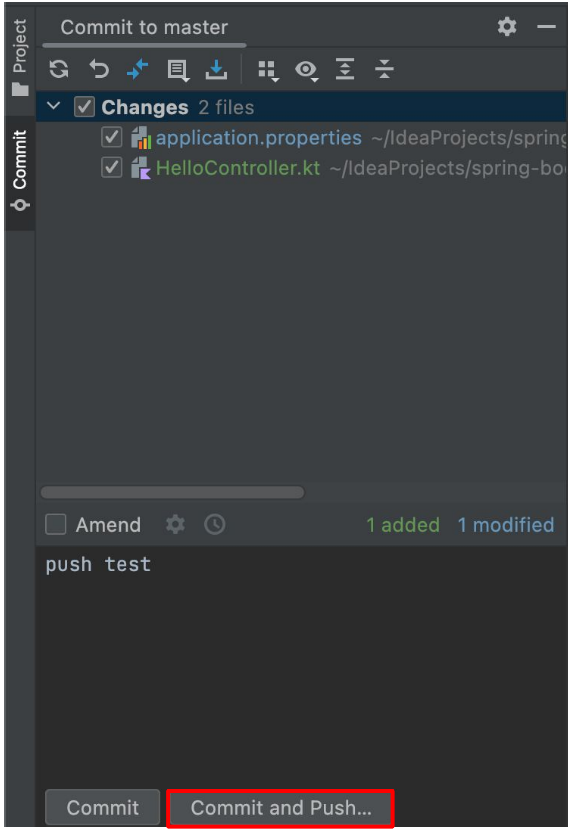


```
server.port=8080
```



```kotlin
@RestController
class HelloController {
    @GetMapping("/hello")
    fun hello(): ResponseEntity<Any> {
        return ResponseEntity
            .ok()
            .body(Response(message = "Hello"))
    }
}

data class Response(
    val message: String
)
```



☑ Changes 2 files

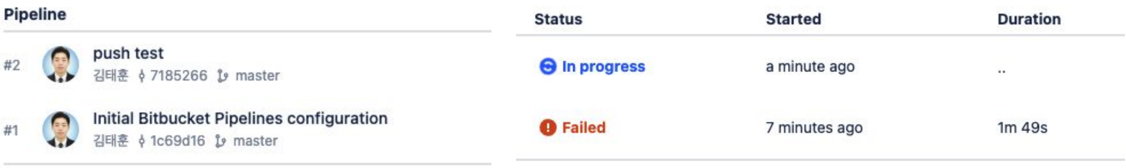
☑ application.properties ~/IdeaProjects/spring

☑ HelloController.kt ~/IdeaProjects/spring-bo

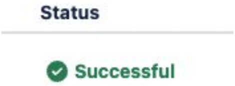
□ Amend 1 added 1 modified

```
push test
```

push test

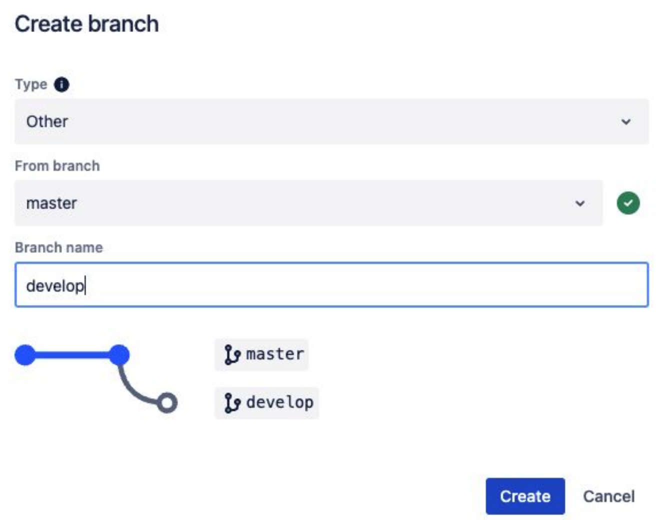


Pipeline		Status	Started	Duration
#2	push test 김태훈 7185266 master	In progress	a minute ago	..
#1	Initial Bitbucket Pipelines configuration 김태훈 1c69d16 master	Failed	7 minutes ago	1m 49s



Status
✓ Successful

branch dev, prod 분리 및 테스트

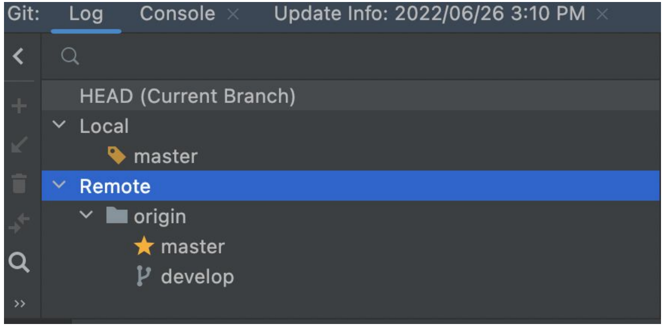


Create branch

Type: Other

From branch: master

Branch name: develop



HEAD (Current Branch)
Local
master
Remote
origin
master
develop