

Cloud Application Deployment

1. 구성도

- <https://github.com>
- <https://heroku.com>
- <https://appname.herokuapp.com>



Source Subversion System

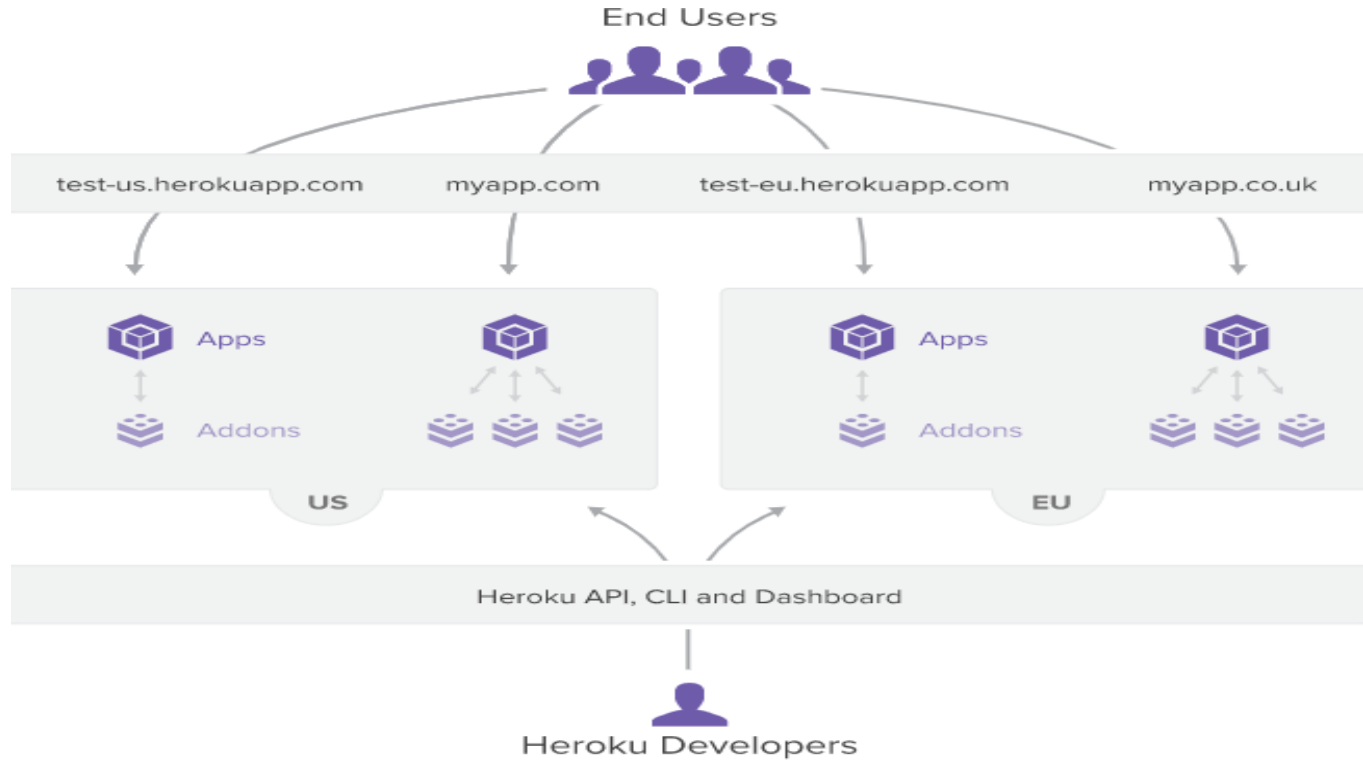
- 개발 소스 관리 시스템이므로 소스 업로드 또는 직접 수정 가능
- 여러명이 동시 작업 가능하며 소스 push 또는 Pull 가능



App Deployment System

- 클라우드 서비스 제공
- Php, jsp, python 같은 다양한 웹 또는 앱 배포 및 서비스 운영 가능

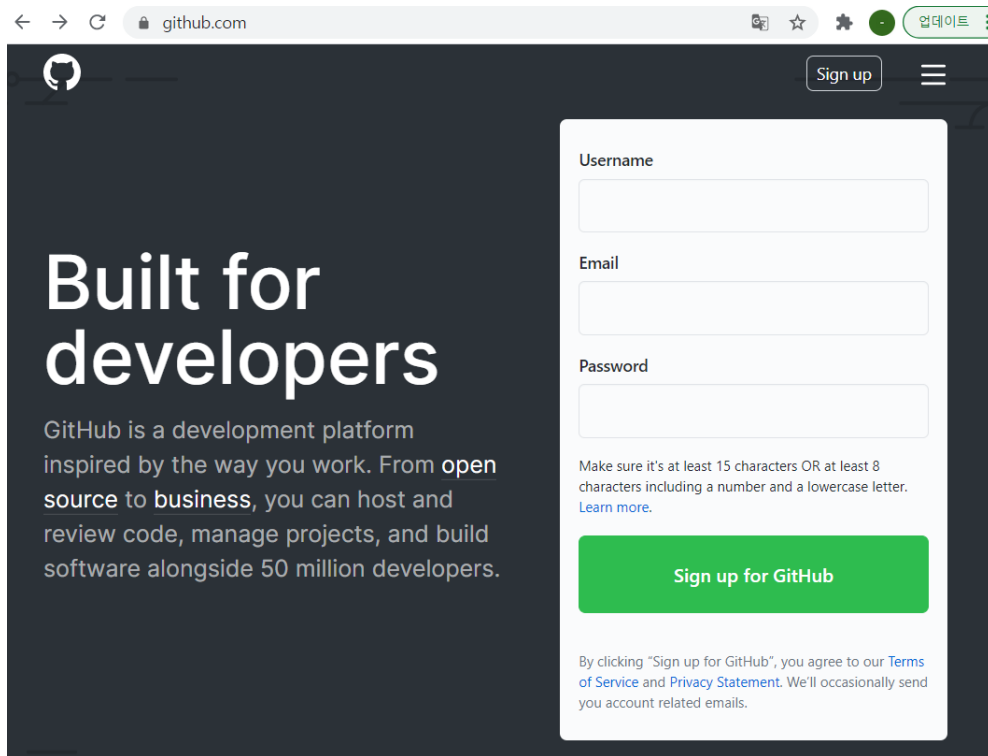
2. Heroku Cloud Architecture



- 무료로 5개까지 배포 가능
- 웹화면에서 앱명 `.herokuapp.com` 로 접속 가능

3. Github 회원 가입 및 로그인

- <https://github.com> 접속
- 필수 항목 확인 하여 가입
- 가입완료 후 이메일 인증필요함(실제 이메일 주소 입력)



The screenshot shows the GitHub website's sign-up page. The browser's address bar displays 'github.com'. The page features the GitHub logo and a 'Sign up' button in the top right corner. The main heading reads 'Built for developers'. Below this, a paragraph states: 'GitHub is a development platform inspired by the way you work. From open source to business, you can host and review code, manage projects, and build software alongside 50 million developers.' On the right side, there is a sign-up form with three input fields: 'Username', 'Email', and 'Password'. Below the 'Password' field, a note specifies: 'Make sure it's at least 15 characters OR at least 8 characters including a number and a lowercase letter. [Learn more.](#)' A large green button labeled 'Sign up for GitHub' is positioned below the form. At the bottom of the form, a disclaimer states: 'By clicking "Sign up for GitHub", you agree to our [Terms of Service](#) and [Privacy Statement](#). We'll occasionally send you account related emails.'

3. Github 회원 가입 및 로그인

- <https://github.com> 접속
- 필수 항목 확인 하여 가입
- 가입완료 후 이메일 인증필요함(실제 이메일 주소 입력)

The screenshot shows the GitHub 'Join GitHub' page. The header includes the GitHub logo, navigation links (Why GitHub?, Enterprise, Explore, Marketplace, Pricing), a search bar, and 'Sign in' and 'Sign up' buttons. The main heading is 'Join GitHub' with the tagline 'The best way to design, build, and ship software.' Below this is a progress bar with three steps: 'Step 1: Set up your account' (active), 'Step 2: Choose your subscription', and 'Step 3: Tailor your experience'.

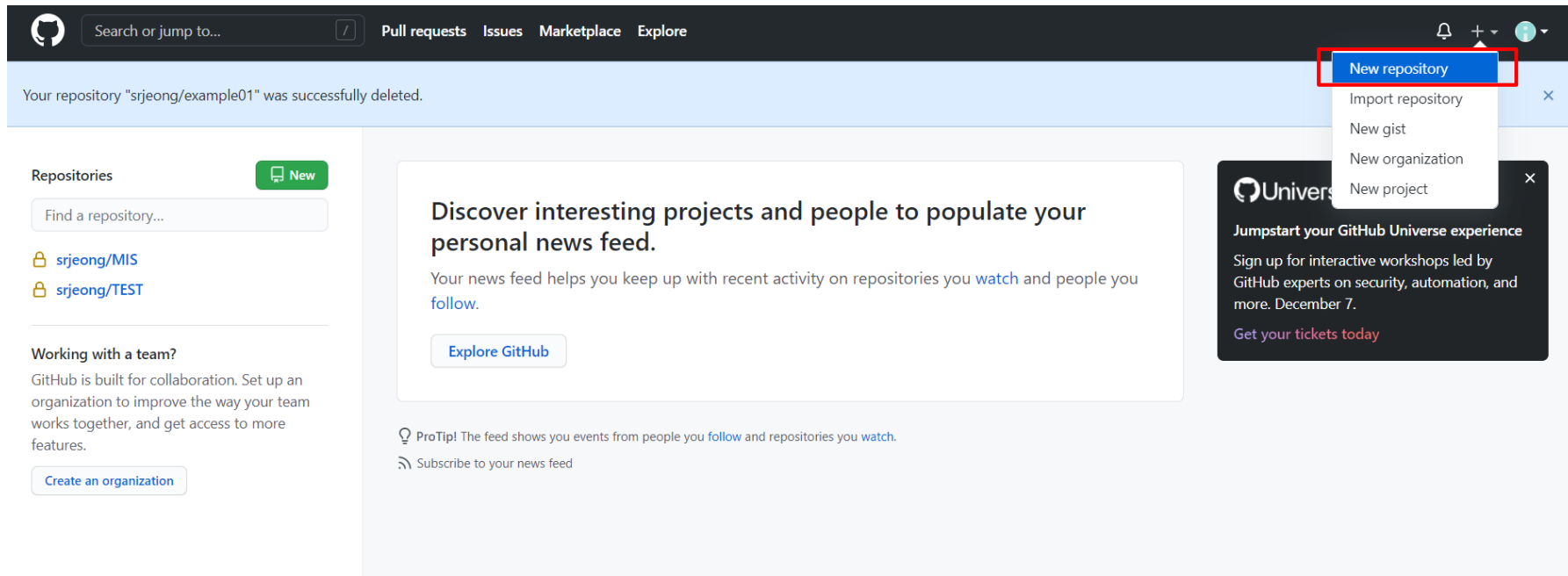
The 'Create your personal account' section contains a red error message: 'There were problems creating your account.' Below this are input fields for 'Username *', 'Email', and 'Password'. Each field has a red error message: 'Username can't be blank', 'Email can't be blank', and 'Password can't be blank' (with a note: '8 characters OR at least 8 characters including a number and a lowercase letter').

The 'Verify account' section features a large box with the text: 'Please solve this puzzle so we know you are a real person' and a 'Verify' button. A small speaker icon is in the bottom right corner of this box.

On the right side, a box titled 'You'll love GitHub' lists benefits: 'Unlimited public repositories', 'Unlimited private repositories', 'Limitless collaboration', 'Frictionless development', and 'Open source community'.

4. Create new repository


- 다음과 같이 개발소스 생성 또는 업로드 하기 위한 New repository 선택 (오른쪽 상단의 + 사인을 클릭)



The screenshot shows the GitHub homepage. At the top, there is a dark navigation bar with the GitHub logo, a search bar, and links for Pull requests, Issues, Marketplace, and Explore. On the right side of the navigation bar, there is a bell icon, a plus sign (+) for creating new content, and a profile icon. A dropdown menu is open from the plus sign, with the 'New repository' option highlighted in blue. Other options in the menu include 'Import repository', 'New gist', 'New organization', and 'New project'. Below the navigation bar, a light blue banner states: 'Your repository "srjeong/example01" was successfully deleted.' On the left sidebar, there is a 'Repositories' section with a 'New' button and a search bar. Below this, there are links for 'srjeong/MIS' and 'srjeong/TEST'. Further down, there is a 'Working with a team?' section with a 'Create an organization' button. The main content area features a large card titled 'Discover interesting projects and people to populate your personal news feed.' with a subtext about keeping up with recent activity and a 'Explore GitHub' button. At the bottom of this card, there is a 'ProTip!' and a link to 'Subscribe to your news feed'. On the right side, there is a dark card for 'Jumpstart your GitHub Universe experience' with a 'Get your tickets today' link.

5. Insert repository name and select type of repository(private or public)

리포지토리 명칭 및 공유 여부 선택하여 생성 (본인만의 리포지토리를 원하면 private 선택)

 Search or jump to... Pull requests Issues Marketplace Explore

Create a new repository

A repository contains all project files, including the revision history. Already have a project repository elsewhere?
[Import a repository.](#)

Owner *
srjeong

 /

Repository name *
example01

Great repository names example01 is available. ble. Need inspiration? How about [solid-garbanzo?](#)

Description (optional)

☐ 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.

Initialize this repository with:
Skip this step if you're importing an existing repository.

☐ Add a README file
This is where you can write a long description for your project. [Learn more.](#)

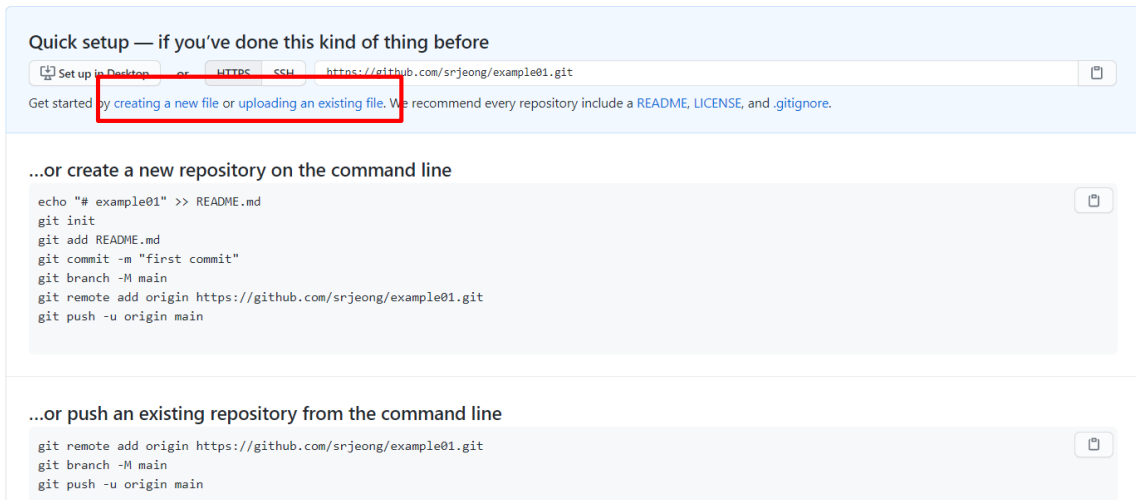
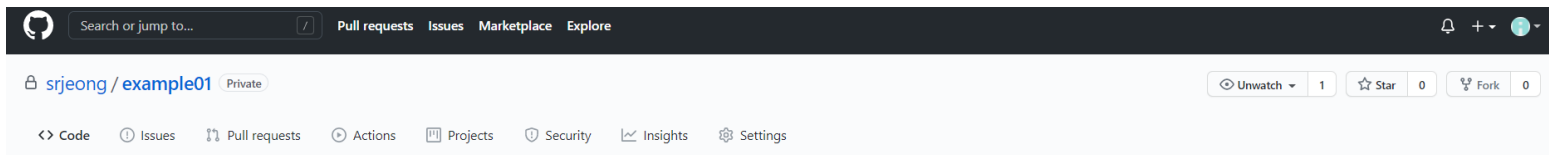
☐ Add .gitignore
Choose which files not to track from a list of templates. [Learn more.](#)

☐ Choose a license
A license tells others what they can and can't do with your code. [Learn more.](#)

Create repository

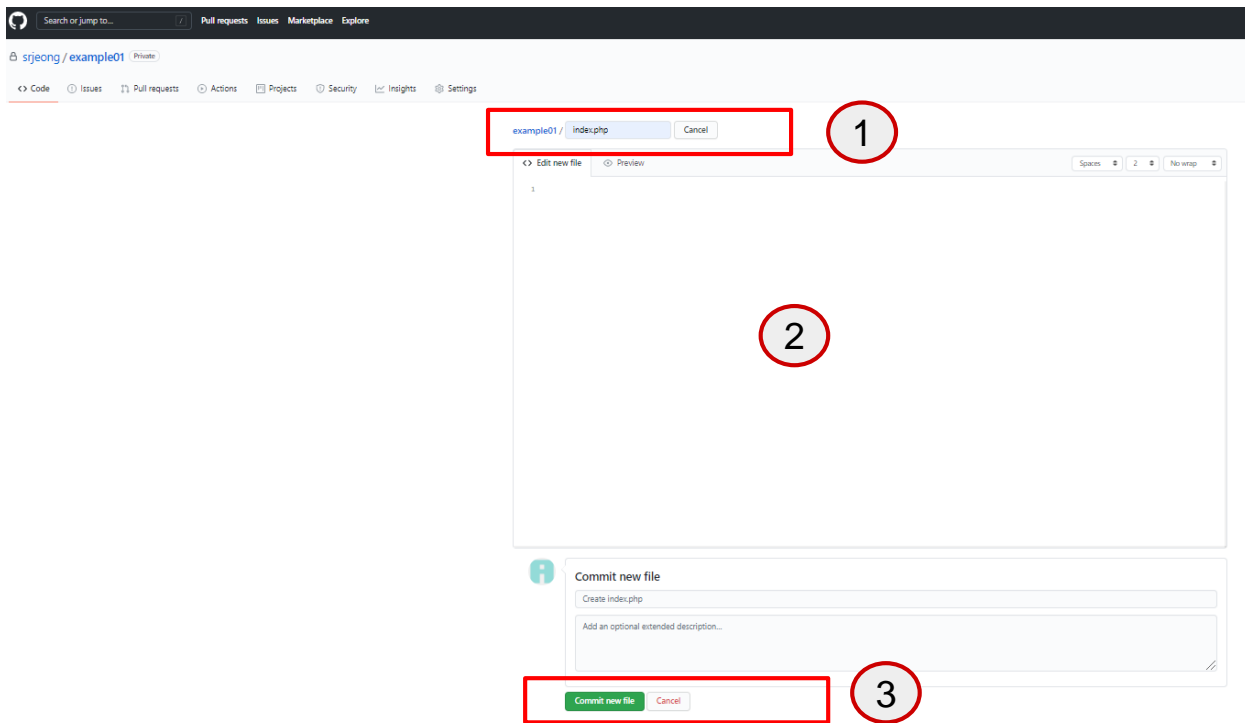
6. We can create, update and upload files

1. Local 컴퓨터에 있는 파일 선택하여 업로드 가능(chrome 브라우저 권장)
2. 처음 리포지토리 생성시에는 버튼 안 보이고 파란색 텍스트만 보일수 있음
3. 새로운 파일 생성(PHP 앱을 heroku에 배포할 경우 index.php 및 composer.json 파일 필수 생성)



7. Create index.php, composer.json files

1. 파일명 입력. 먼저 index.php 타이핑
2. 본문에 다음 슬라이드의 index.php 내용 입력
3. Commit new file 버튼 클릭
4. 같은 방식으로 composer.json 만들것



8. index.php

```
<html>
  <head>
    <meta http-equiv="refresh" content="1; url=/index.html">
  </head>
</html>
```

9. composer.json

```
{ }
```

10. 추가 파일 만들기

1. index.php 파일이 만들어지면 빨간 박스안처럼 버튼이 만들어진다.
2. Add file 버튼을 누르고 create new file을 클릭한다.
3. 추가로 업로드할 파일은 upload files 버튼을 클릭한다.

The screenshot shows the GitHub interface for a repository named 'srjeong/example01'. The repository is private and has 1 branch and 0 tags. The 'Add file' button is highlighted with a red box, and its dropdown menu is open, showing 'Create new file' and 'Upload files' options. The 'Code' button is also visible. The repository has 1 commit. The 'About' section is empty, and the 'Releases' and 'Packages' sections show no published items.

Search or jump to... Pull requests Issues Marketplace Explore

srjeong / example01 Private

Unwatch 1 Star 0 Fork 0

<> Code Issues Pull requests Actions Projects Security Insights Settings

main 1 branch 0 tags

srjeong Create index.php

index.php Create index.php now

Add a README with an overview of your project. Add a README

About

No description, website, or topics provided.

Releases

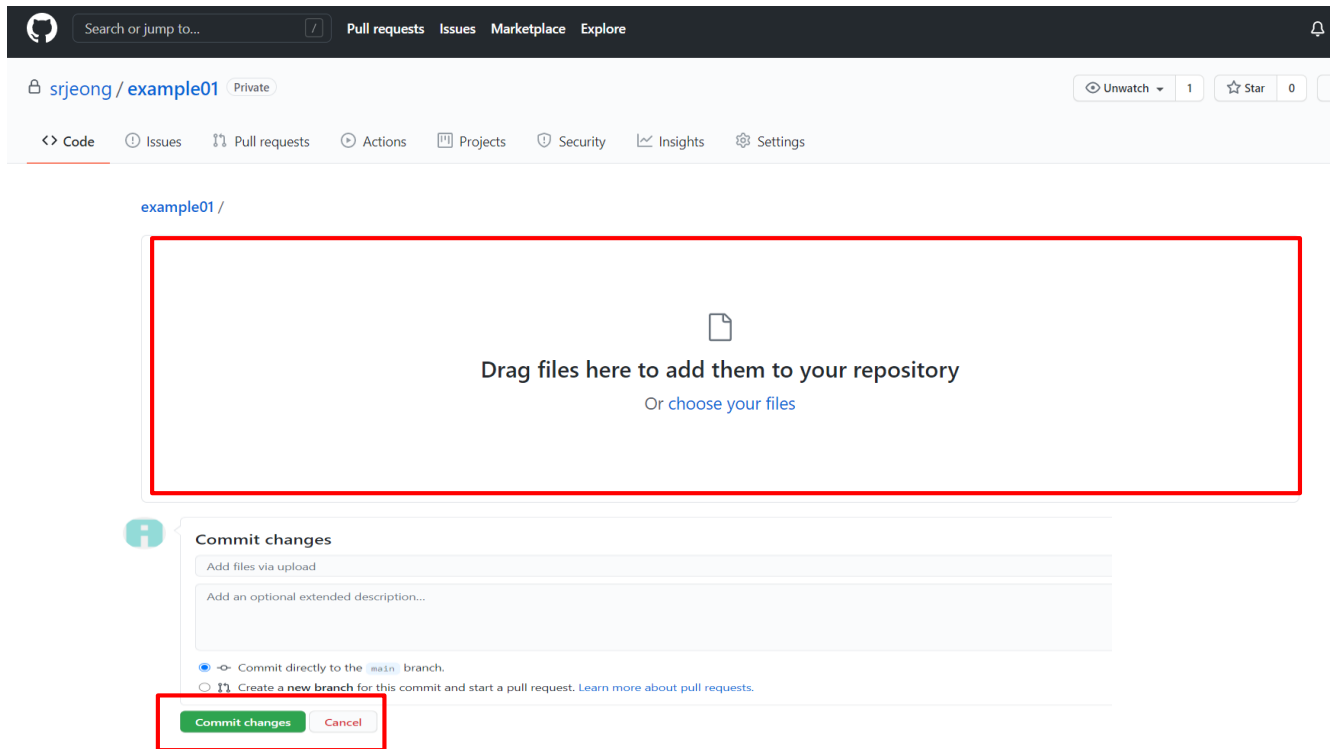
No releases published
Create a new release

Packages





No packages published
Publish your first package

11. 파일 업로드하기

1. 탐색기의 폴더에서 원하는 파일을 화면의 빨간 박스로 드래그 하면 업로드 된다.
2. 모두 업로드되면 제일 하단에 Commit changes 버튼을 클릭한다.






12. 완성된 리포지토리


 Search or jump to... / [Pull requests](#) [Issues](#) [Marketplace](#) [Explore](#)   






[srjeong / example01](#) Private Unwatch 1 Star 0 Fork 0

[Code](#) [Issues](#) [Pull requests](#) [Actions](#) [Projects](#) [Security](#) [Insights](#) [Settings](#)

 main  1 branch  0 tags

[Go to file](#) [Add file](#) [Code](#)


 **srjeong** Add files via upload a458624 18 seconds ago 3 commits

 images	Add files via upload	18 seconds ago
 composer.json	Create composer.json	10 minutes ago
 default.css	Add files via upload	18 seconds ago
 index.html	Add files via upload	18 seconds ago
 index.php	Create index.php	15 minutes ago

Add a README with an overview of your project.

[Add a README](#)

About



No description, website, or topics provided.

Releases

No releases published

[Create a new release](#)


Packages

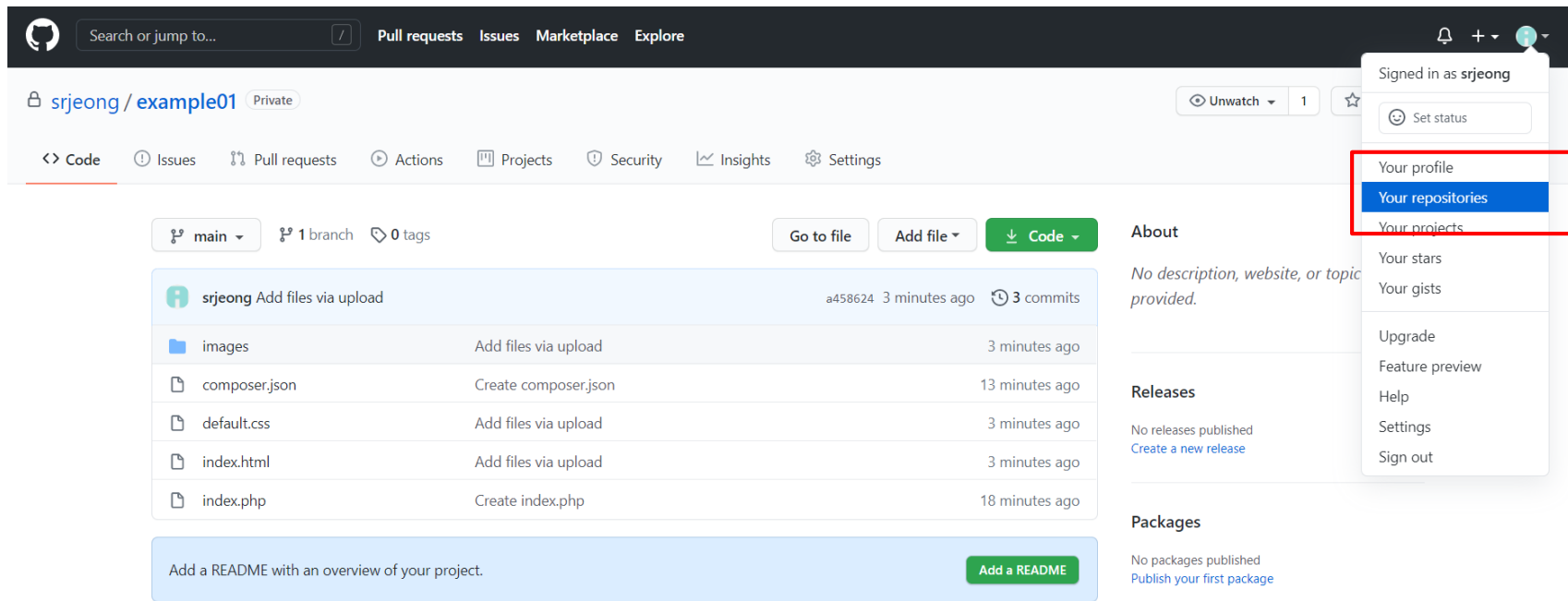
No packages published

[Publish your first package](#)

Languages

13. 생성된 리포지토리 목록 확인

- 옆에 있는  버튼 클릭
- Your repositories 선택 하여 리포지토리 목록화면으로 이동 가능



Search or jump to... Pull requests Issues Marketplace Explore

srjeong / example01 (Private) Unwatch 1

<> Code Issues Pull requests Actions Projects Security Insights Settings

main 1 branch 0 tags Go to file Add file Code

srjeong	Add files via upload	a458624 3 minutes ago 3 commits
images	Add files via upload	3 minutes ago
composer.json	Create composer.json	13 minutes ago
default.css	Add files via upload	3 minutes ago
index.html	Add files via upload	3 minutes ago
index.php	Create index.php	18 minutes ago

Add a README with an overview of your project. Add a README

About
No description, website, or topic provided.

Releases
No releases published
[Create a new release](#)

Packages
No packages published
[Publish your first package](#)

Signed in as srjeong

- Set status
- Your profile
- Your repositories**
- Your projects
- Your stars
- Your gists
- Upgrade
- Feature preview
- Help
- Settings
- Sign out

14. Select the repository to create or upload the file

- 사용하고자 하는 리포지토리 목록 클릭후 바로 앞 슬라이드 상세화면으로 이동하면 언제든지 필요시 파일을 작성하거나 업로드 할 수 있게 됨


The screenshot shows the GitHub profile of user 'srjeong'. The 'Repositories' tab is selected, displaying a list of three private repositories. The first repository, 'example01', is highlighted with a red rectangular box. It is an HTML repository updated 5 minutes ago. Below it are 'MIS' (updated on 20 Nov 2019) and 'TEST' (updated on 24 Sep 2019), both also HTML repositories. The interface includes a search bar, navigation links for Pull requests, Issues, Marketplace, and Explore, and a 'ProTip!' banner encouraging profile updates.

Repository Name	Privacy	Language	Last Updated
example01	Private	HTML	Updated 5 minutes ago
MIS	Private	HTML	Updated on 20 Nov 2019
TEST	Private	HTML	Updated on 24 Sep 2019

1. Sign up or login to Heroku


- <https://heroku.com> 접속
- Github에 올라가 있는 소스 배포 및 서비스를 위한 회원 가입 및 로그인
- 처음 회원가입시 이메일 인증필요하기때문에 실제 이메일 주소로 가입


← → ↻ signup.heroku.com/login 🔍


 **HEROKU**

Already have an account? [Log in](#)

Sign up for free and experience Heroku today

 **Free account**
Create apps, connect databases and add-on services, and collaborate on your apps, for free.

 **Your app platform**
A platform for apps, with app management & instant scaling, for development and production.

 **Deploy now**
Go from code to running app in minutes. Deploy, scale, and deliver your app to the world.

First name *

Last name *


Email address *

Company name


Role *

Country *


Primary development language *


☐ I'm not a robot 

CREATE FREE ACCOUNT

 **HEROKU**

Log in to your account

 Email address

 Password

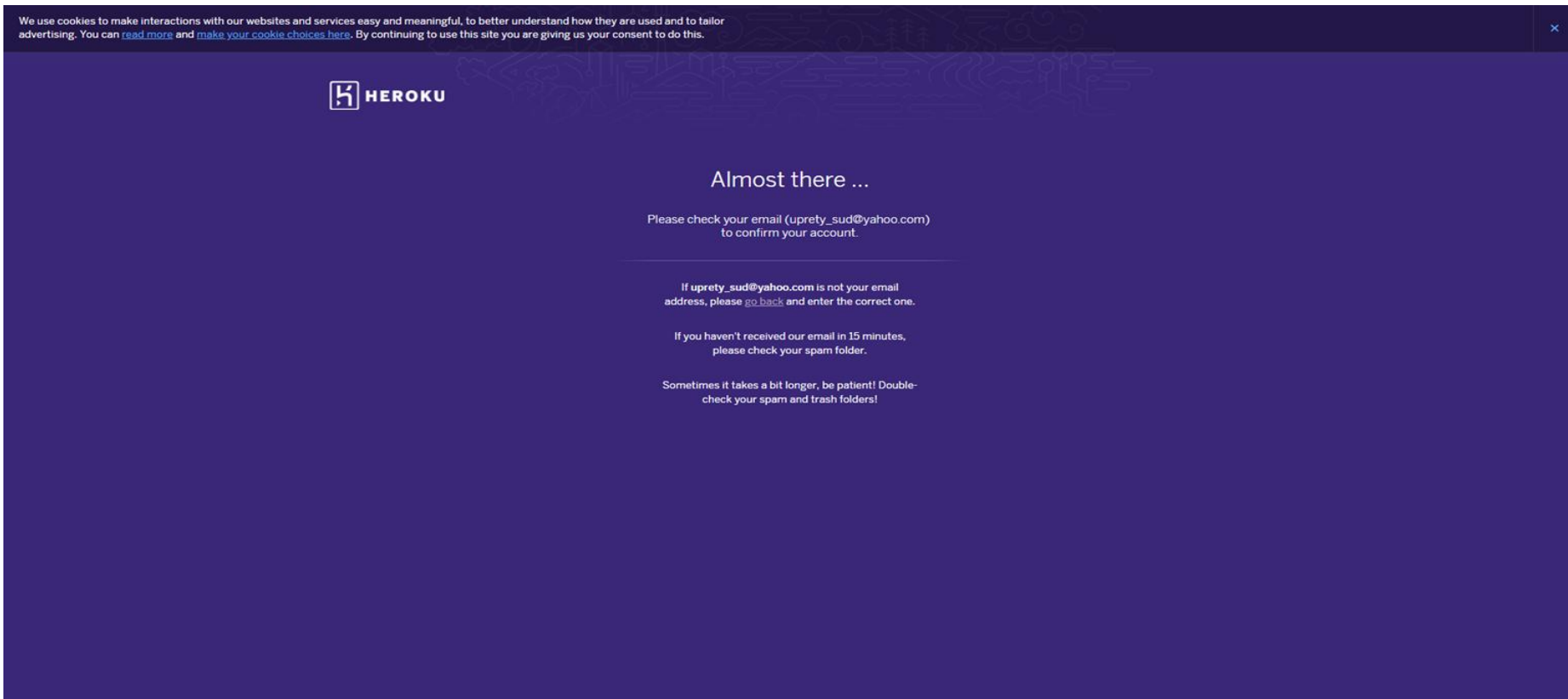
Log In

New to Heroku? [Sign Up](#)

[Log in via SSO](#) [Forgot your password?](#)

2. Email authentication


- 가입시 입력한 이메일확인 후 링크클릭



3. Set your password

- 이메일 인증하게 되면 heroku 비밀번호 설정화면으로 이동됨

We use cookies to make interactions with our websites and services easy and meaningful, to better understand how they are used and to tailor advertising. You can [read more](#) and [make your cookie choices here](#). By continuing to use this site you are giving us your consent to do this. ×

 **HEROKU**

Set your password

Create your password and log in to your Heroku account.

Create a new password *

.....

.....

Password requirements

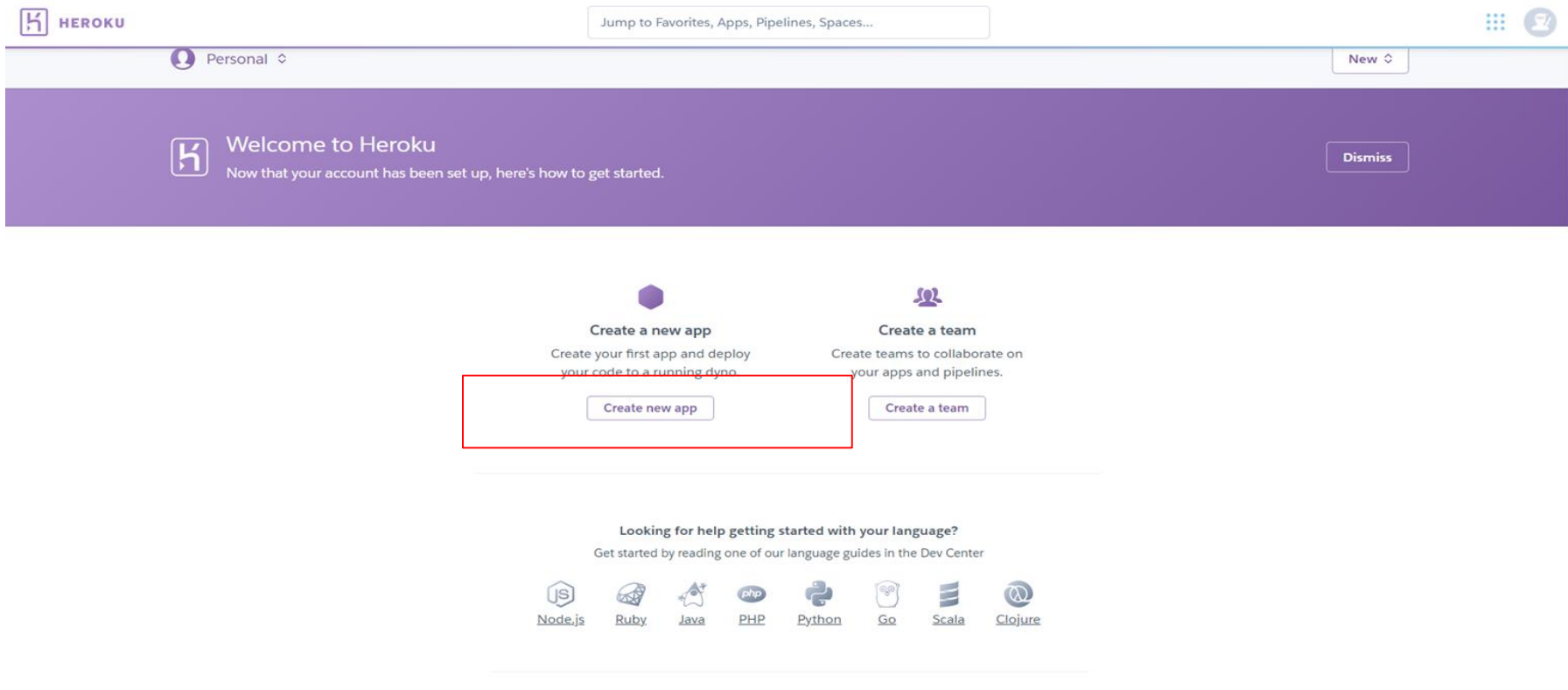
- ✓ Must be a minimum of 8 characters.
- ✓ Must contain letters, numbers, and symbols.
- ✓ Passwords must match.

☐ I would like to receive occasional updates about new product releases, technical content, tips, and more to help optimize my Heroku experience. I can unsubscribe at any time.

SET PASSWORD AND LOG IN

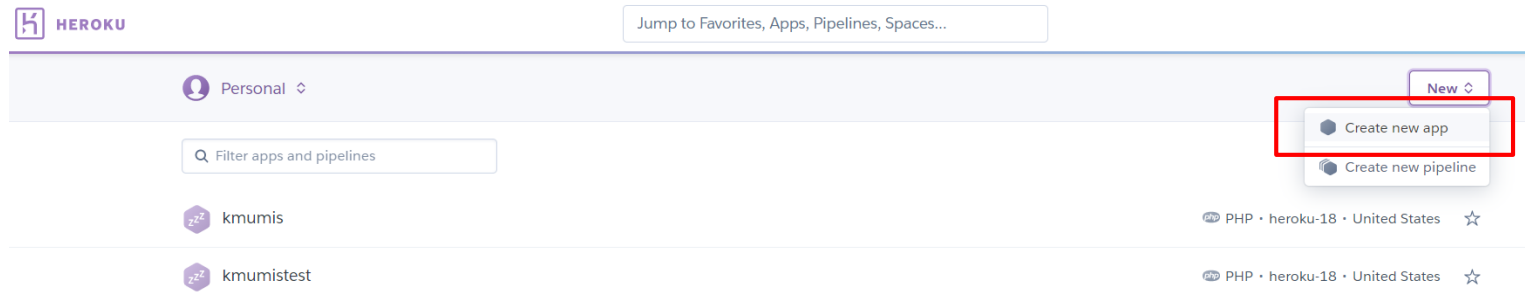
4. Create a new app

- heroku에서 Create new app 클릭 하여 새로운 앱 생성함



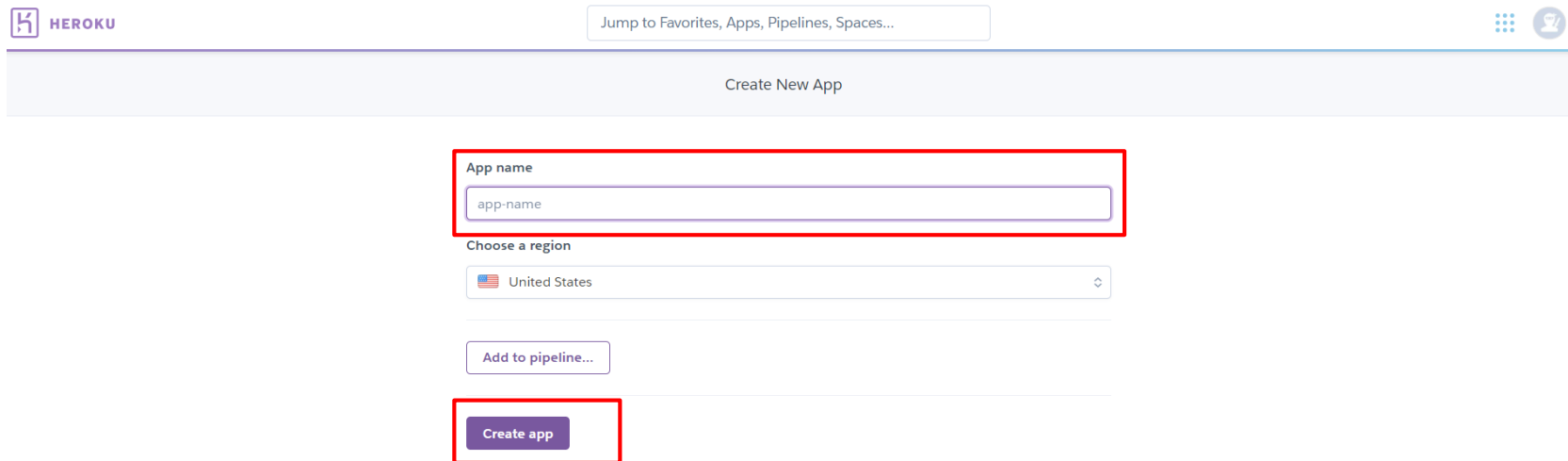
4. Create a new app

- 이미 Heroku를 사용한 사용자는 로그인하면 아래 화면과 같이 본인이 만든 app 리스트를 보게 된다.
- 우측 상단의 New 버튼을 누른 후 Create new app을 클릭하여 새로운 앱을 생성할 수 있다.



5. Create a new app

- App name은 unique 해야 한다.
- 나중에 홈페이지 접속 시 appname.herokuapp.com으로 접속되므로 app name을 신중히 만들 것.
- 하단에 있는 Create app 버튼을 클릭하여 앱을 생성한다.



The screenshot shows the Heroku 'Create New App' interface. At the top, there is a navigation bar with the Heroku logo, a search bar containing 'Jump to Favorites, Apps, Pipelines, Spaces...', and a user profile icon. Below this is a light blue header bar with the text 'Create New App'. The main form area contains the following elements:

- App name:** A text input field with the placeholder 'app-name'. This field is highlighted with a red rectangular box.
- Choose a region:** A dropdown menu showing 'United States' with a flag icon and a downward arrow.
- Add to pipeline...** A button located below the region dropdown.
- Create app:** A purple button at the bottom of the form. This button is also highlighted with a red rectangular box.

6. Deploy and integrate with github repository

- 생성된 앱에 github 리포지토리를 연동하고 거기에 있는 파일들을 deploy 하기 위해 GitHub 아이콘 (Connect to GitHub)을 클릭 한다.

The screenshot shows the Heroku dashboard for an application named 'kmumistest01'. The 'Deploy' tab is selected, showing options to add the app to a pipeline or connect it to GitHub. The 'Deployment method' section at the bottom lists three options: Heroku Git, GitHub, and Container Registry. The 'GitHub' option, labeled 'Connect to GitHub', is highlighted with a red rectangular box. A red circle with the number '1' is placed next to it. Below this, the instructions for 'Deploy using Heroku Git' are visible, including the step to 'Install the Heroku CLI'.

HEROKU

Jump to Favorites, Apps, Pipelines, Spaces...

Personal > kmumistest01

Open app More

Overview Resources **Deploy** Metrics Activity Access Settings

Add this app to a pipeline
Create a new pipeline or choose an existing one and add this app to a stage in it.

Add this app to a stage in a pipeline to enable additional features
Pipelines let you connect multiple apps together and **promote code** between them. [Learn more.](#)
Pipelines connected to GitHub can enable **review apps**, and create apps for new pull requests. [Learn more.](#)

Choose a pipeline

Deployment method

Heroku Git Use Heroku CLI

GitHub Connect to GitHub

Container Registry Use Heroku CLI

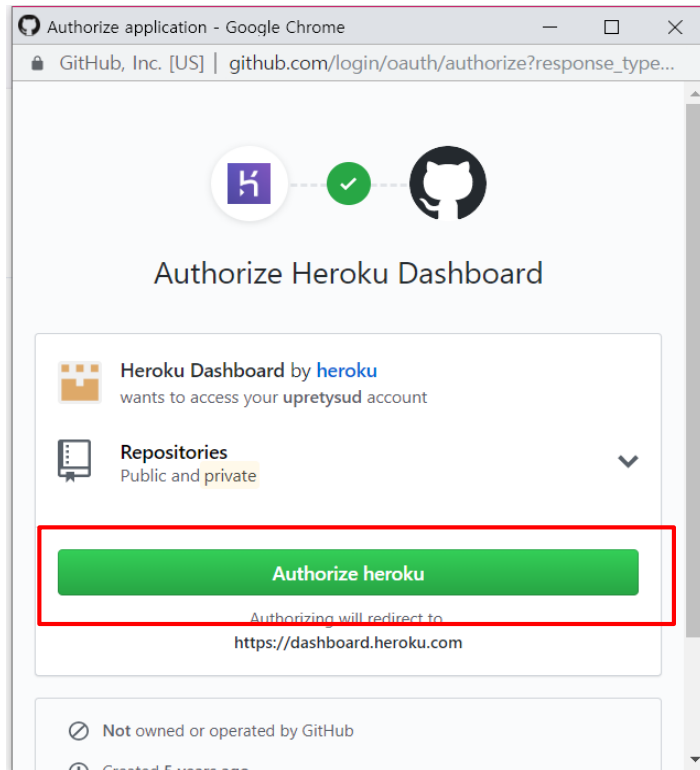
1

Deploy using Heroku Git
Use git in the command line or a GUI tool to deploy this app.

Install the Heroku CLI
Download and install the [Heroku CLI](#).
If you haven't already, log in to your Heroku account and follow the prompts to create a new SSH public key.

7. Connect github from heroku


- Heroku 인증 화면이 나오면 Authorize heroku 버튼을 눌러 인증한다.





7. Connect github from heroku

- 필요한 경우 아래 화면과 같이 Search for a repository to connect to 가 보이고 Search 버튼을 클릭하면 GitHub에서 만든 선택 가능한 repository 이름이 보여진다.
- 원하는 리포지토리를 선택하고 connect 버튼을 클릭한다.

Deployment method

 Heroku Git
Use Heroku CLI




 GitHub
Connect to GitHub

 Container Registry
Use Heroku CLI

Connect to GitHub

Connect this app to GitHub to enable code diffs and deploys.

Search for a repository to connect to

 srjeong  repo-name 




Missing a GitHub organization? [Ensure Heroku Dashboard has team access.](#)

1







Connect to GitHub

Connect this app to GitHub to enable code diffs and deploys.

Search for a repository to connect to

 srjeong  repo-name 

Missing a GitHub organization? [Ensure Heroku Dashboard has team access.](#)

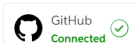
 srjeong/MIS	
 srjeong/example01	
 srjeong/TEST	

2

7. Connect github from heroku

- 아래 화면은 성공적으로 Github Repository가 연결된 모습 (빨간 박스 안을 참고할 것)

Deployment method



App connected to GitHub

Code diffs, manual and auto deploys are available for this app.

Connected to [srjeong/example01](#) by [srjeong](#)

Disconnect...

Releases in the [activity feed](#) link to GitHub to view commit diffs

Automatic deploys

Enables a chosen branch to be automatically deployed to this app.



You can now change your main deploy branch from "master" to "main" for both manual and automatic deploys, please follow the instructions [here](#).

Enable automatic deploys from GitHub

Every push to the branch you specify here will deploy a new version of this app. **Deploys happen automatically:** be sure that this branch is always in a deployable state and any tests have passed before you push. [Learn more](#).

Choose a branch to deploy

main

☐ Wait for CI to pass before deploy

Only enable this option if you have a Continuous Integration service configured on your repo.

Enable Automatic Deploys

8. Deploy source

- Enable Automatic Deploys 버튼을 클릭하고 바로 이어서 Deploy Branch 버튼을 클릭하면 github에 있는 소스가 heroku 서버에 배포된다.

The screenshot shows the Heroku dashboard for a user named 'kmumistest01'. The app 'srjeong/example01' is connected to GitHub. The 'Automatic deploys' section is highlighted with a red box and a red circle containing the number 1, indicating the 'Enable Automatic Deploys' button. The 'Manual deploy' section is also highlighted with a red box and a red circle containing the number 2, indicating the 'Deploy Branch' button.

Automatic deploys

Enables a chosen branch to be automatically deployed to this app.

You can now change your main deploy branch from "master" to "main" for both manual and automatic deploys, please follow the instructions [here](#).

Enable automatic deploys from GitHub

Every push to the branch you specify here will deploy a new version of this app. **Deploys happen automatically:** be sure that this branch is always in a deployable state and any tests have passed before you push. [Learn more](#)

Choose a branch to deploy

main

☐ Wait for CI to pass before deploy

Only enable this option if you have a [Continuous Integration](#) service configured on your repo.

Enable Automatic Deploys

1

Manual deploy

Deploy a GitHub branch

This will deploy the current state of the branch you specify below. [Learn more](#)

Choose a branch to deploy

main

Deploy Branch

2

8. Deploy source

- 오류없는 경우 Your app was successfully deployed 메시지가 나타남.
- 오류가 있는 경우 오류에 관한 설명이 나타남

Manual deploy

Deploy the current state of a branch to this app.

Deploy a GitHub branch

This will deploy the current state of the branch you specify below. [Learn more](#).

Choose a branch to deploy

 main

Deploy Branch

Receive code from GitHub



Build main a458624b



Release phase



Deploy to Heroku



Your app was successfully deployed.

 View

9. Settings and add buildpack(ex, php)

- Resources 탭 클릭 → Find more add-ons 버튼 클릭
- BuildPacks 탭 클릭 → Php 버튼 클릭
- 이제 app name(여러분이 정한 앱명).herokuapp.com으로 접속 가능함

The screenshot illustrates the steps to configure a Heroku application's buildpacks. It is divided into two main sections: the main app settings and a detailed view of the buildpacks.

Main App Settings:

- Resources Tab:** The 'Resources' tab is selected in the top navigation bar, indicated by a red circle with the number 1.
- Dynos:** A message states 'This app has no process types yet' and 'Add a Profile to your app in order to define its process types. [Learn more](#)'.
- Add-ons:** A search bar is present with the text 'Quickly add add-ons from Elements'.
- Find more add-ons:** A purple button labeled 'Find more add-ons' is located on the right side, indicated by a red circle with the number 2.

Buildpacks Section:

- Buildpacks Tab:** The 'Buildpacks' tab is selected in the sub-navigation bar, indicated by a red circle with the number 3.
- Officially Supported Buildpacks:** A list of buildpacks is shown under the heading 'Officially Supported Buildpacks (What is Officially Supported?)'. The buildpacks are: Clojure Buildpack, Go Buildpack, Gradle Buildpack, Java Buildpack, Node.js Buildpack, PHP Buildpack, Python Buildpack, Ruby Buildpack, and Scala Buildpack.
- PHP Buildpack:** The 'PHP Buildpack' is highlighted with a red circle and the number 4.