

Continuous Deployment

지속적 배포를 실천해보자

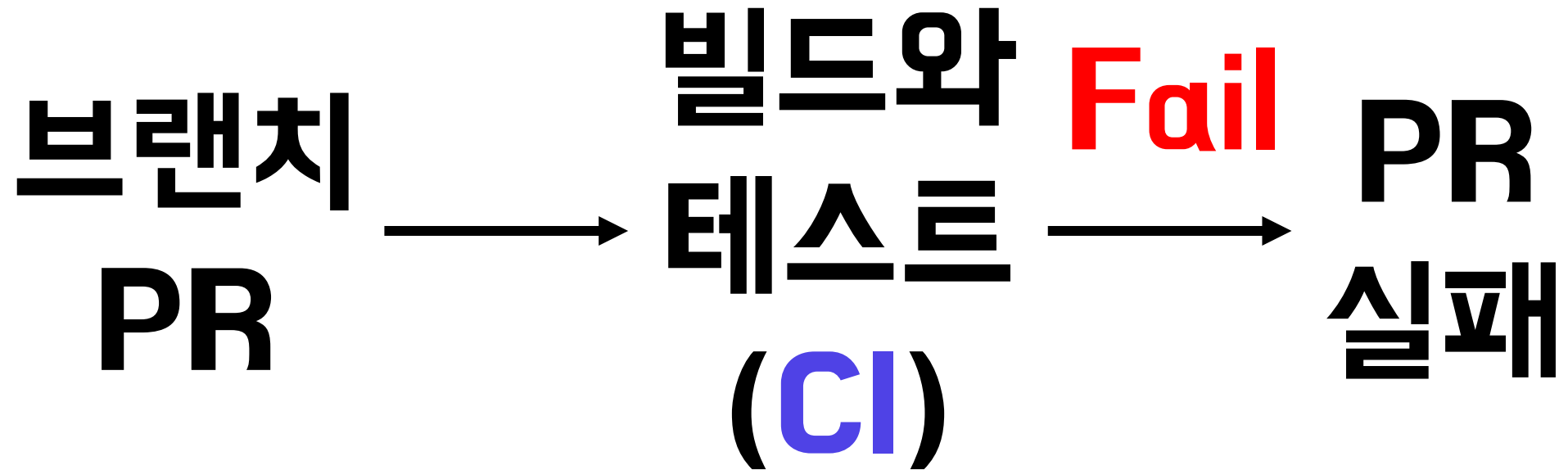
발표자 : 다람쥐

발표날짜 : 2021년 02월 20일 토요일

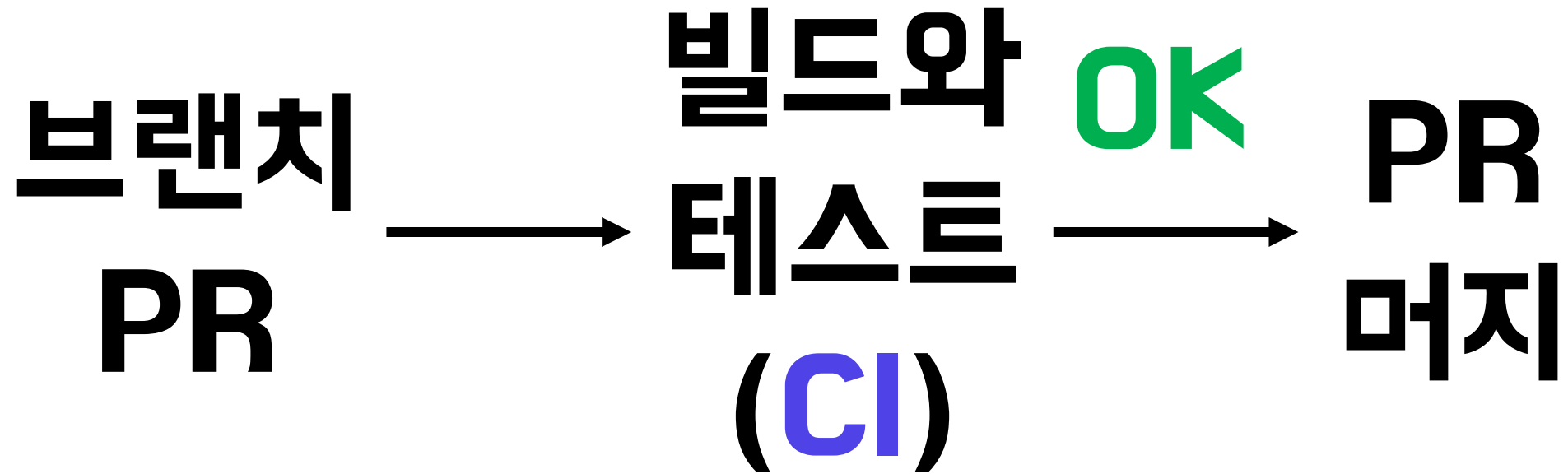


CI/CD 라는 말을
들어 보셨습니까?

CI / CD



CI / CD



CI / CD

PR
머지



자동
배포
(CD)

CI/CD 중

CD를 알아보겠습니다.

CD

**Continuous
Delivery**

**Continuous
Deployment**

CD - Delivery & Deployment

Delivery

Deployment

CD - Delivery & Deployment

자동

수동

Delivery

ACCEPTANCE
TEST

DEPLOY TO
STAGING

DEPLOY TO
PRODUCTION

SMOKE TESTS

Deployment

ACCEPTANCE
TEST

DEPLOY TO
STAGING

DEPLOY TO
PRODUCTION

SMOKE TESTS

CD

Acceptance Test

인수 테스트

- 개발 완료를 증명하는 테스트

Smoke Tests

기초 안전성 테스트

- 빌드 이후 잘 동작하는지 테스트

CD - Delivery & Deployment

Deployment

ACCEPTANCE
TEST

DEPLOY TO
STAGING

DEPLOY TO
PRODUCTION

SMOKE TESTS

자동

수동

그래서
CD를 어떻게 실천하는데?

CD - Services



Travis CI

배포 가능 AWS 서비스

- CodeDeploy
- Elastic Beanstalk
- Lambda
- OpsWorks
- S3



배포 가능 AWS 서비스

- CodeDeploy
- ECS (컨테이너 지원)
- EKS
- S3

CD - Services



Travis CI

가격

- 무료
 - 오픈 소스 프로젝트
- 유료
 - 69 USD / month
 - 한 번에 한 개의 job



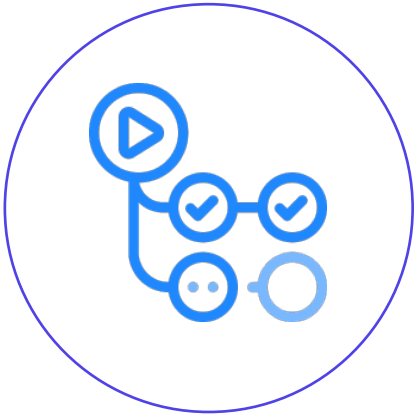
가격

- 무료
 - 한 번에 한 개의 job
 - 주 당 2,500 무료 크레딧 제공
- 유료
 - 최소 30 USD / month
 - 처음 3명까지 15 USD
 - 이후 1명 당 15 USD
 - 25,000 크레딧 당 15 USD

설정하기 귀찮... 😞

직접 깃허브 액션으로 배포하기

CD - Github Actions



깃허브
액션



S3



Code
Deploy



EC2
CodeDeploy
Agent

CD - Github Actions



깃허브
액션

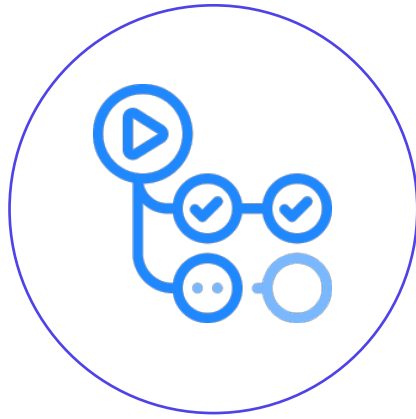


빌드한
압축 파일 업로드



S3

CD - Github Actions



깃허브
액션



**S3에 업로드한
압축 파일 키 전송**



Code
Deploy

CD - Github Actions



**Code
Deploy**



**배포 프로세스 시작
압축 파일 전달하여
EC2 서버에 업로드**



**EC2
CodeDeploy
Agent**

CD - Github Actions



EC2
CodeDeploy
Agent



배포 후 스크립트 실행



Deployment

Github 액션 스크립트 작성하기

CD - Github Actions Script



This is a basic workflow to help you get started with Actions

name: Deploy to Production

Controls when the action will run.

on:

Triggers the workflow on push or pull request events but only for the master branch

push:

branches: [master]

Allows you to run this workflow manually from the Actions tab

workflow_dispatch:

CD - Github Actions Script



```
# A workflow run is made up of one or more jobs that can run sequentially or in parallel
jobs:
  deploy:
    name: Build, Deploy to S3 Bucket
    runs-on: ubuntu-latest

    strategy:
      matrix:
        node-version: [12.19.x]

    steps:
      - uses: actions/checkout@v2

      - name: Node.js ${ matrix.node-version }
        uses: actions/setup-node@v1
        with:
          node-version: ${ matrix.node-version }

      - name: Npm install
        run: npm install

      - name: lint
        run: npm run lint
        env:
          CI: true
```

CD - Github Actions Script

```
jobs:
  deploy:
    ...
    steps:
      ...

      - name: Remove node_modules
        run: rm -rf node_modules

      - name: Make zip file
        run: zip -r ./${GITHUB_SHA}.zip .
        shell: bash

      - name: Configure AWS credentials
        uses: aws-actions/configure-aws-credentials@v1
        with:
          aws-access-key-id: ${ secrets.AWS_IAM_MANAGER_KEY_ID }
          aws-secret-access-key: ${ secrets.AWS_IAM_MANAGER_SECRET_ACCESS_KEY }
          aws-region: 'ap-northeast-2'

      - name: Upload to S3
        run: aws s3 cp \
          --region ap-northeast-2 \
          ./${GITHUB_SHA}.zip \
          s3://${s3_bucket_name}/${GITHUB_SHA}.zip

      - name: Code Deploy
        run: aws deploy create-deployment \
          --application-name ${code_deploy_application_name} \
          --deployment-config-name CodeDeployDefault.AllAtOnce \
          --deployment-group-name ${code_deploy_group_name} \
          --s3-location bucket=${s3_bucket_name }, \
          bundleType=zip, \
          key=${GITHUB_SHA}.zip
```


CD - Github Actions Script

<> Code ! Issues 🔗 Pull requests ▶ Actions 📁 Projects 🛡 Security 📈 Insights ⚙ Settings

Options

Manage access

Security & analysis

Branches

Webhooks

Notifications

Integrations

Deploy keys

Actions

Secrets

Actions

[Codespaces](#)

Actions secrets

New repository secret

Secrets are environment variables that are **encrypted**. Anyone with **collaborator** access to this repository can use these secrets for Actions.

Secrets are not passed to workflows that are triggered by a pull request from a fork. [Learn more](#).

Repository secrets

🔒 AWS_IAM_MANAGER_KEY_ID	Updated on 26 Dec 2020	Update	Remove
🔒 AWS_IAM_MANAGER_SECRET_ACCESS_KEY	Updated on 26 Dec 2020	Update	Remove
🔒 AWS_S3_BUCKET	Updated on 26 Dec 2020	Update	Remove

Secrets can also be created at the organization level and authorized for use in this repository.

Organization secrets

Manage organization secrets

Organization secrets can only be used by public repositories on your plan.

If you would like to use organization secrets in a private repository, you will need to upgrade your plan.

CD - Github Actions Script

✓ Merge pull request #140 from OFU-Crew/develop getMessage 핫픽스 수정 사항 배포 Deploy to Production #106

🔄 Re-run jobs



🏠 Summary

Jobs

✓ Build, Deploy to S3 Bucket (12.19.x)

Build, Deploy to S3 Bucket (12.19.x)













succeeded 21 days ago in 34s

🔍 Search logs



> ✓ Set up job	4s
> ✓ Run actions/checkout@v2	1s
> ✓ Node.js 12.19.x	3s
> ✓ Npm install	18s
> ✓ lint	2s
> ✓ Remove node_modules	0s
> ✓ Make zip file	0s
> ✓ Configure AWS credentials	1s
> ✓ Upload to S3	3s
> ✓ Code Deploy	2s
> ✓ Post Configure AWS credentials	0s
> ✓ Post Run actions/checkout@v2	0s
> ✓ Complete job	0s

CD - Github Actions Script

<input type="checkbox"/>	이름 ▾	유형 ▾	마지막 수정 ▼	크기 ▾	스토리지 클래스 ▼
<input type="checkbox"/>	 e0ab6338feedea6dc78173b466c80165b1f95236.zip	zip	2021. 1. 30. am 10:22:54 AM KST	246.1KB	Standard
<input type="checkbox"/>	 da711d54937e599508d2afc6f7bef2165c32f532.zip	zip	2021. 1. 28. pm 10:45:01 PM KST	245.3KB	Standard
<input type="checkbox"/>	 12588d0ad2373500ef223b318ea84a1c658f8c94.zip	zip	2021. 1. 28. pm 10:28:03 PM KST	245.0KB	Standard
<input type="checkbox"/>	 d79cfcc566d5bfdb15acbfcb93924b6ebe7b6d7f.zip	zip	2021. 1. 17. am 4:23:04 AM KST	244.6KB	Standard
<input type="checkbox"/>	 6840fc681ca3c40a85ea3e4b8c5d209e17c087bb.zip	zip	2021. 1. 15. pm 11:01:40 PM KST	244.5KB	Standard
<input type="checkbox"/>	 acc3e6d539e77209cf9407738e849bba4a84dbd1.zip	zip	2021. 1. 15. pm 7:09:35 PM KST	228.3KB	Standard
<input type="checkbox"/>	 15a7dea259928ddc19992a33b378795635fe70c3.zip	zip	2021. 1. 11. am 4:24:35 AM KST	226.8KB	Standard
<input type="checkbox"/>	 070fe1500590834613b24fb9ddcd75465c95cc00.zip	zip	2021. 1. 11. am 2:30:33 AM KST	224.1KB	Standard
<input type="checkbox"/>	 4b0fadf02df41ea03a8af4d43cdb97c1be4afc35.zip	zip	2021. 1. 10. am 3:51:11 AM KST	218.0KB	Standard
<input type="checkbox"/>	 122683f2269ca1d5f0c008c0691b95e9efd6ba15.zip	zip	2021. 1. 10. am 12:58:29 AM KST	192.2KB	Standard
<input type="checkbox"/>	 b5a605efbbbde89e17d4afe326e59e8a219ab7c4.zip	zip	2021. 1. 10. am 12:37:06 AM KST	191.9KB	Standard
<input type="checkbox"/>	 e4966599cf302dd29987e3bfddeb916ff79aaa1a.zip	zip	2021. 1. 9. pm 11:43:34 PM KST	192.3KB	Standard

CD - Github Actions Script

배포 내역										
<div><div>🔄</div><div>세부 정보 보기</div><div>동작 ▼</div><div>배포 복사</div><div>배포 재시도</div></div> <div><input type="text"/></div> <div>< 1 2 > ⚙️</div>										
	배포 ID	상태	배포 유형	컴퓨팅 플랫폼	애플리케이션	배포 그룹	개정 위치	이벤트 시작	시작 시간	종료 시간
<input type="radio"/>	d-SD38E5U38	✔️ 성공	현재 위치	EC2/온프레미스	dear-world	production	s3://dear-...	사용자 작업	1월 30, 2021 10:22 오전 (UTC+9:00)	1월 30, 2021 10:23 오전 (UTC+9:00)
<input type="radio"/>	d-M7QUOMU28	✔️ 성공	현재 위치	EC2/온프레미스	dear-world	production	s3://dear-...	사용자 작업	1월 28, 2021 10:45 오후 (UTC+9:00)	1월 28, 2021 10:45 오후 (UTC+9:00)
<input type="radio"/>	d-DV9WUXU28	✔️ 성공	현재 위치	EC2/온프레미스	dear-world	production	s3://dear-...	사용자 작업	1월 28, 2021 10:28 오후 (UTC+9:00)	1월 28, 2021 10:28 오후 (UTC+9:00)
<input type="radio"/>	d-VMCYLY3V7	✔️ 성공	현재 위치	EC2/온프레미스	dear-world	production	s3://dear-...	사용자 작업	1월 17, 2021 4:23 오전 (UTC+9:00)	1월 17, 2021 4:23 오전 (UTC+9:00)
<input type="radio"/>	d-25OPHIPMK	✔️ 성공	현재 위치	EC2/온프레미스	dear-world	production	s3://dear-...	사용자 작업	1월 15, 2021 11:01 오후 (UTC+9:00)	1월 15, 2021 11:02 오후 (UTC+9:00)
<input type="radio"/>	d-KGOP4C8U7	✔️ 성공	현재 위치	EC2/온프레미스	dear-world	production	s3://dear-...	사용자 작업	1월 15, 2021 7:09 오후 (UTC+9:00)	1월 15, 2021 7:10 오후 (UTC+9:00)
<input type="radio"/>	d-32VALF6R7	✔️ 성공	현재 위치	EC2/온프레미스	dear-world	production	s3://dear-...	사용자 작업	1월 11, 2021 4:24 오전 (UTC+9:00)	1월 11, 2021 4:24 오전 (UTC+9:00)
<input type="radio"/>	d-83PFQJ4R7	✔️ 성공	현재 위치	EC2/온프레미스	dear-world	production	s3://dear-...	사용자 작업	1월 11, 2021 2:30 오전 (UTC+9:00)	1월 11, 2021 2:30 오전 (UTC+9:00)

CD Hook Script

appspec.yml

version: 0.0

os: linux

files:

- source: /
destination: /home/ec2-user/app/dist/dear-world-production
overwrite: yes

permissions:

- object: /
pattern: "**"
owner: ec2-user
group: ec2-user

hooks:

AfterInstall:

- location: scripts/install_dependencies.sh
timeout: 120
runas: ec2-user

ApplicationStart:

- location: scripts/restart_server.sh
timeout: 50
runas: ec2-user

ValidateService:

- location: scripts/validate_server.sh
timeout: 30
runas: ec2-user

CD Hook Script



```
# scripts/install_dependencies
```

```
echo '====='
```

```
echo 'Running install_dependencies'
```

```
echo '====='
```

```
cd /home/ec2-user/app/dist/dear-world-production/
```

```
source /home/ec2-user/.bash_profile
```

```
npm install
```

CD Hook Script



```
# scripts/restart_server
echo '===== '
echo 'Running restart_server'
echo '===== '

cd /home/ec2-user/app/dist/dear-world-production/
source /home/ec2-user/.bash_profile
npx pm2 reload ecosystem.config.js --env production
```

CD Hook Script



```
echo '====='  
echo 'Running validate_server'  
echo '====='  
  
sleep 3  
result=$(curl -s -o /dev/null -w "%{http_code}" http://localhost:3000/)  
  
echo Check http://localhost:3000/  
echo $result  
  
if [[ "$result" =~ "200" ]]; then  
    exit 0  
else  
    exit 1  
fi
```


**매쉬업 프로젝트에 모두
CI/CD 를 적용해봅시다!**

감사합니다.

참고 도서

CI/CD : <https://jhleed.tistory.com/130>

인수테스트 : <https://needjarvis.tistory.com/446>

기초 안전성 테스트 : <https://sites.google.com/site/knowingmoresoftware/software-testing/smoke-sanity-testing>

CI/CD 툴 : <https://medium.com/day34/ci-cd-tool-comparison-f710a4777852>