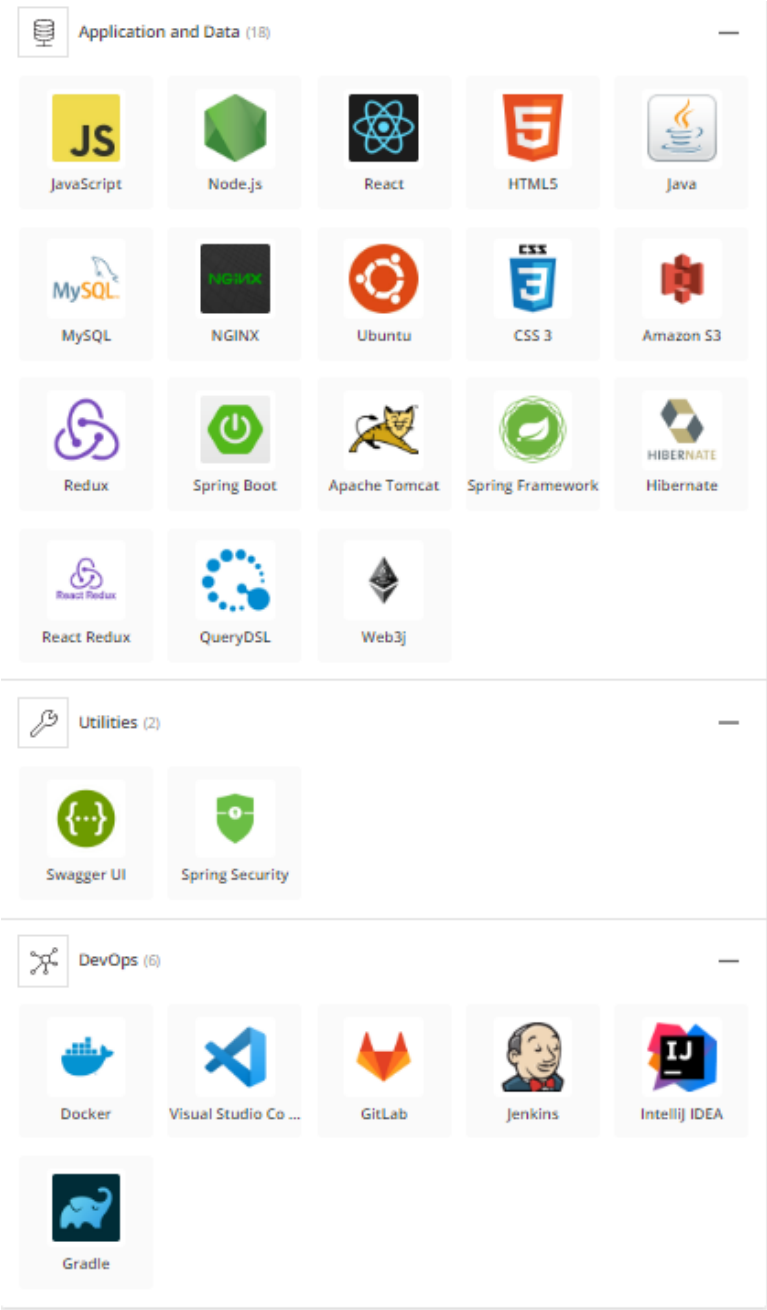
# DON-JO 포팅 메뉴얼

## 1. 프로젝트 구성도

### 기술 스택(stackshare)




### 시스템 아키텍쳐

## 2. Spring 서버 ec2 세팅

Server spec : t2.micro

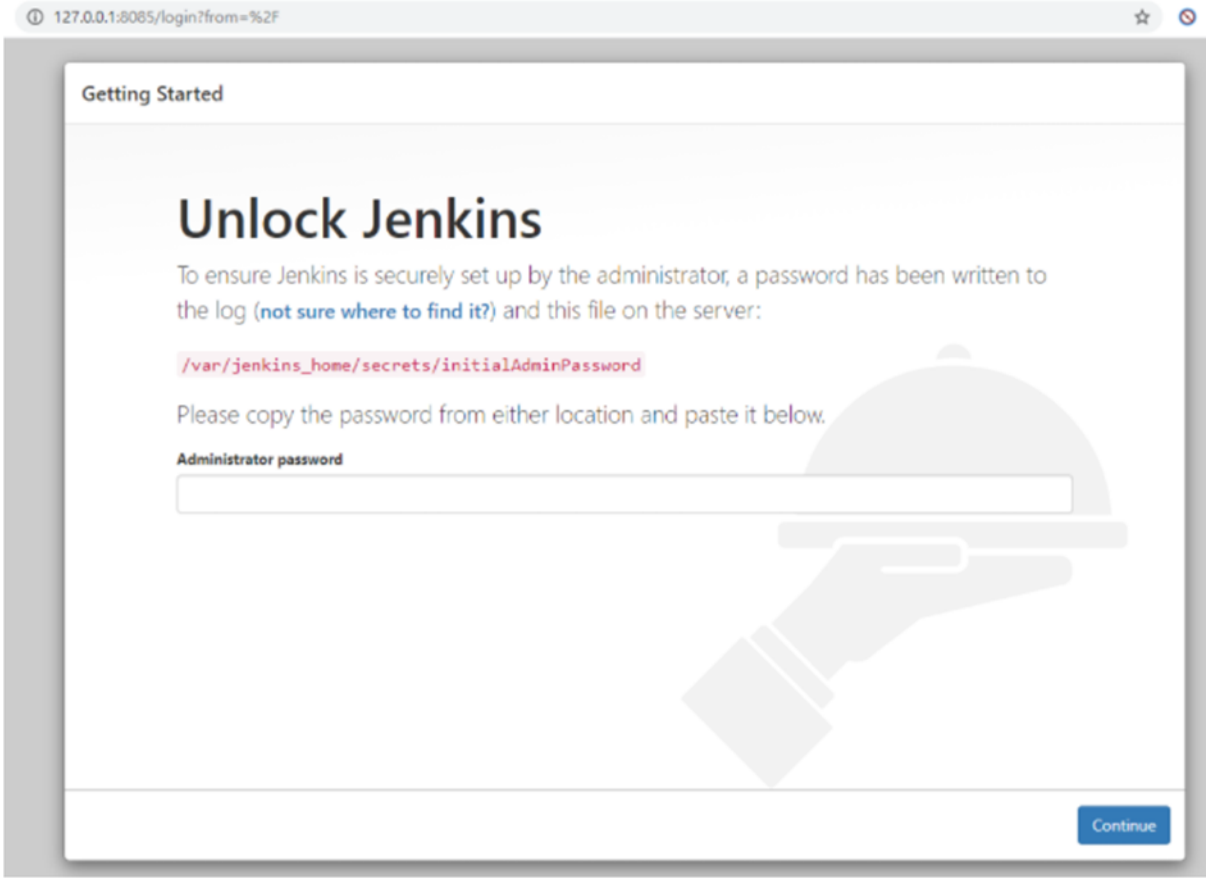
os : Amazon Linux 2

## docker 설치

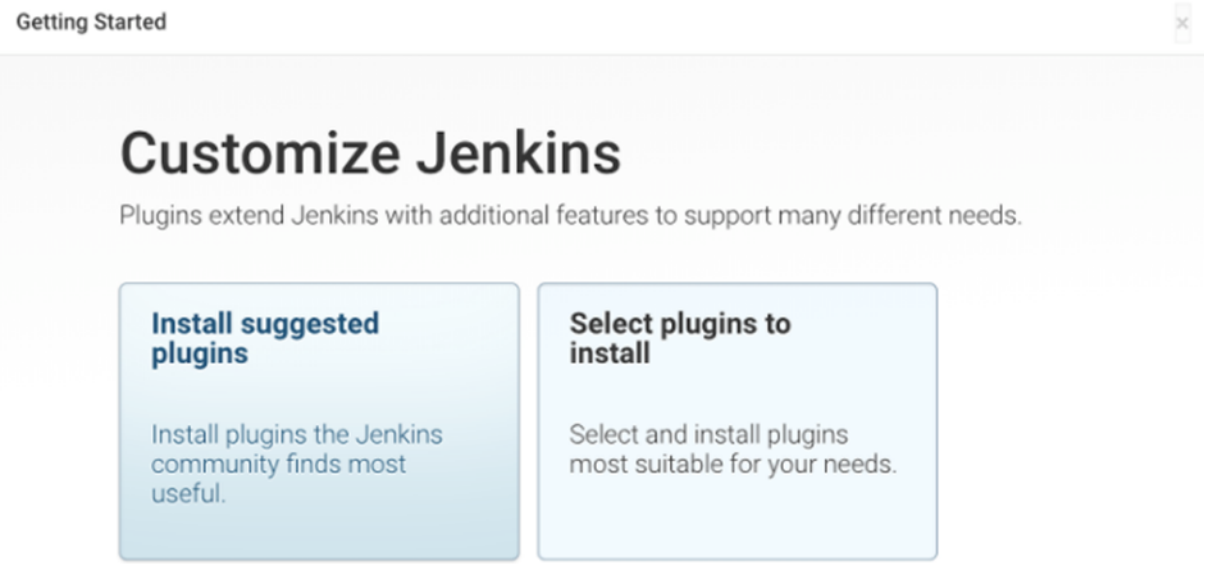
```
// docker 설치

// 패키지 업데이트
sudo apt update
// https관련 패키지 설치
sudo apt install apt-transport-https ca-certificates curl software-properties-common
// docker repository 접근을 위한 gpg 키 설정
curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sudo apt-key add -
// docker repository 등록
sudo add-apt-repository "deb [arch=amd64] https://download.docker.com/linux/ubuntu focal stable"
// 다시 업데이트
sudo apt update
// 도커 설치
sudo apt install docker-ce
// 설치 확인
docker --version
```

## 3. jenkins 서버 ec2 세팅

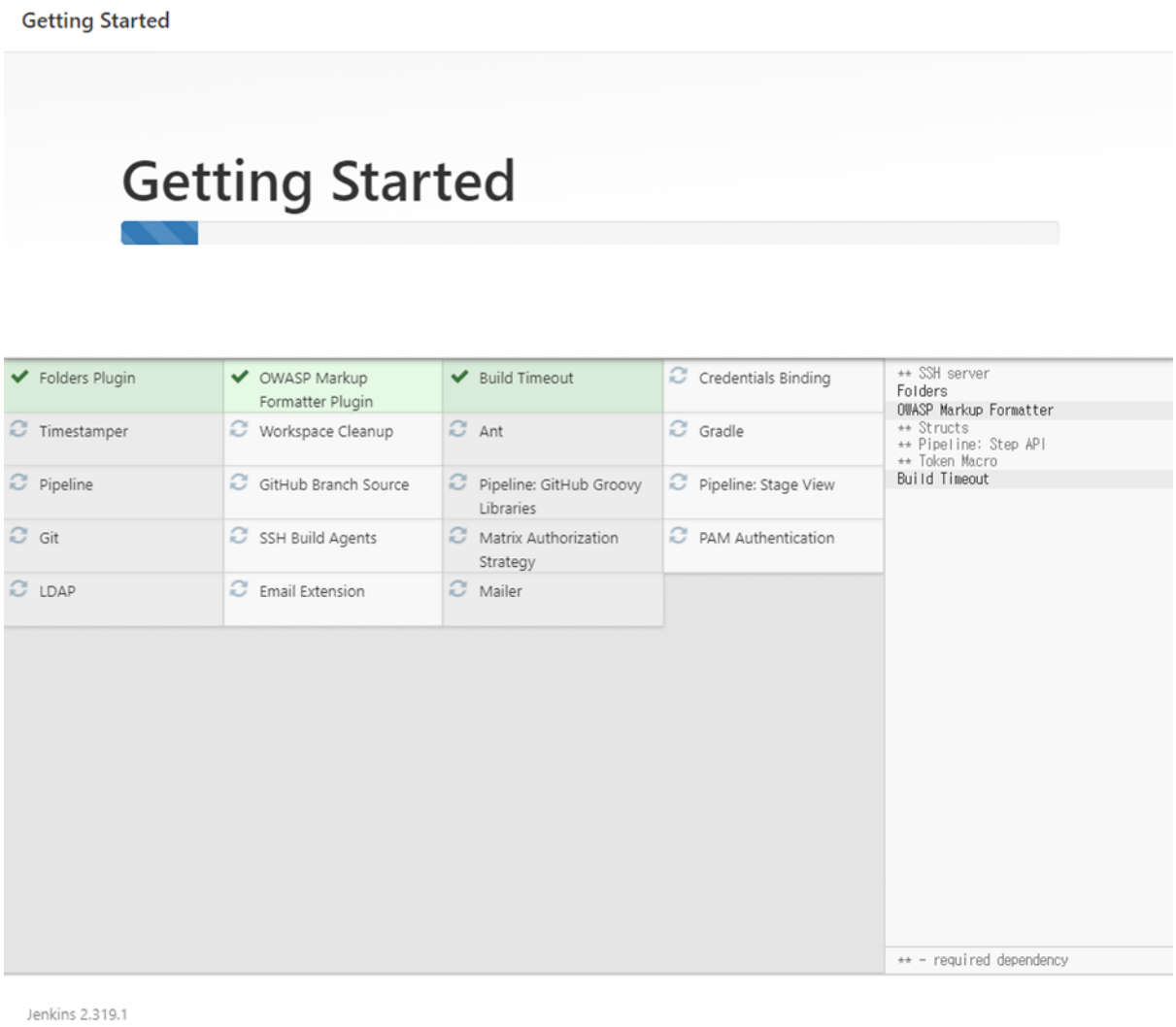
```
// Jenkins 설치


// 젠킨스 이미지 다운로드
docker pull jenkins/jenkins:lts
// 젠킨스 컨테이너 설치 및 실행
docker run -itd -p 8080:8080 -v /jenkins:/var/jenkins_home –name jenkins -u root jenkins/jenkins:lts
```

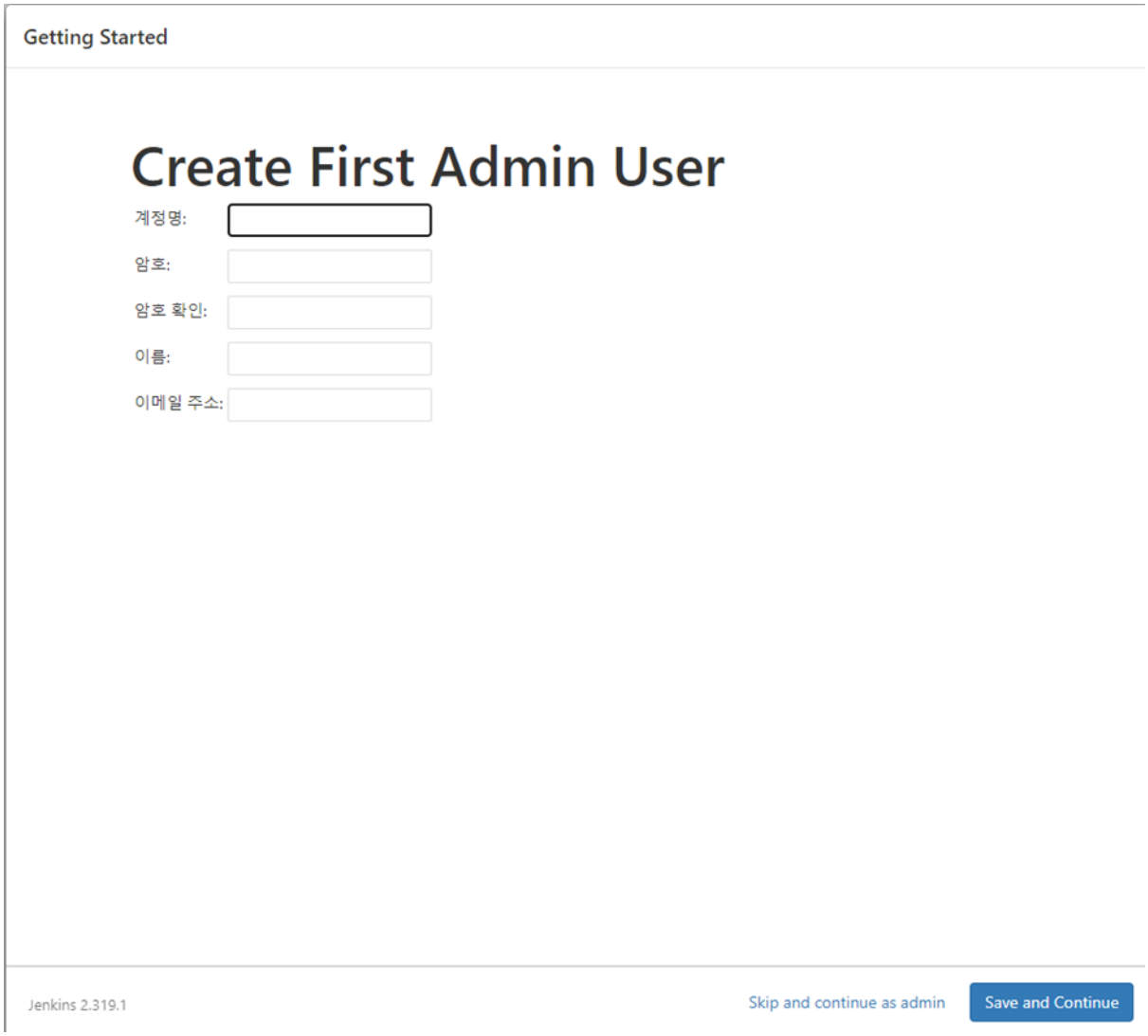



```
// 젠킨스 컨테이너에 접근해서 어드민 패스워드 찾기

docker exec -it jenkins /bin/bash

cat /var/jenkins_home/secrets/initialAdminPassword

// 혹은 jenkins 로그를 출력해서 초기 비번 확인
docker logs jenkins -f
```



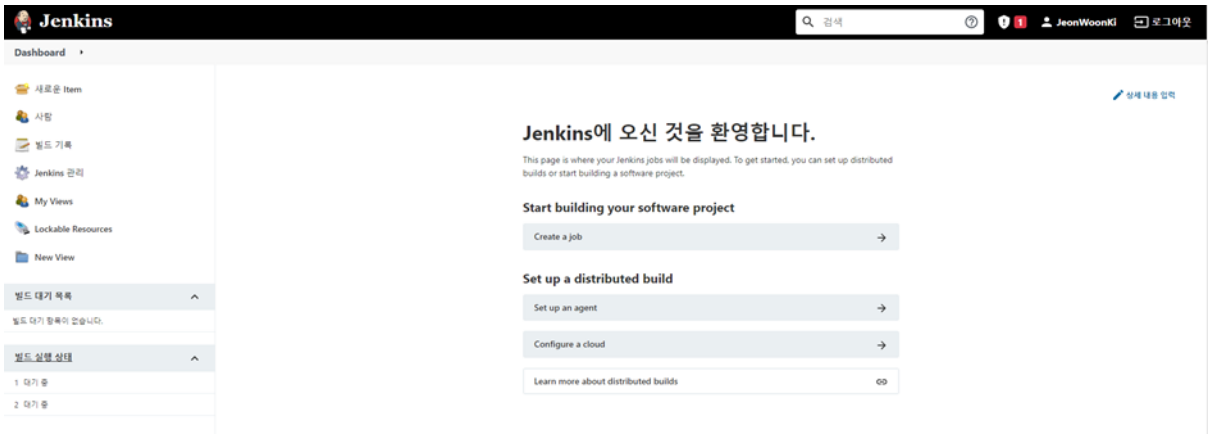

Install suggested plugins 설치






설치가 완료되면 계정의 정보 입력

## 4. Jenkins 파이프라인 생성




### 필요 플러그인 설치

- Generic Webhook Trigger Plugin
- GitLab
- Gitlab API Plugin
- GitLab Authentication plugin
- Mattermost Notification Plugin
- Publish Over SSH

**Credentials**

| T | P | Store ↓ | Domain | ID | Name |
|---|---|---|---|---|---|
| | | System | (global) | GitLabID | ts7681@naver.com/****** (깃랩 설정) |
| | | System | (global) | Blockus | GitLab API token (Blockus pjt) |
| | | System | (global) | lyy | dldbdud112@naver.com/****** (lyy입니다) |

Jenkins 관리 → Manage Credentials → Credentials 등록

## Item 생성(Pipeline)

## Build Triggers

- [ ] Build after other projects are built ?
- [ ] Build periodically ?
- [x] Build when a change is pushed to GitLab. GitLab webhook URL: http://j8a209.p.ssafy.io:8080/project/donjoBackend ?

Enabled GitLab triggers

- [x] Push Events
- [ ] Push Events in case of branch delete
- [x] Opened Merge Request Events
- [ ] Build only if new commits were pushed to Merge Request ?
- [ ] Accepted Merge Request Events
- [ ] Closed Merge Request Events

Rebuild open Merge Requests

Never

- [x] Approved Merge Requests (EE-only)
- [x] Comments

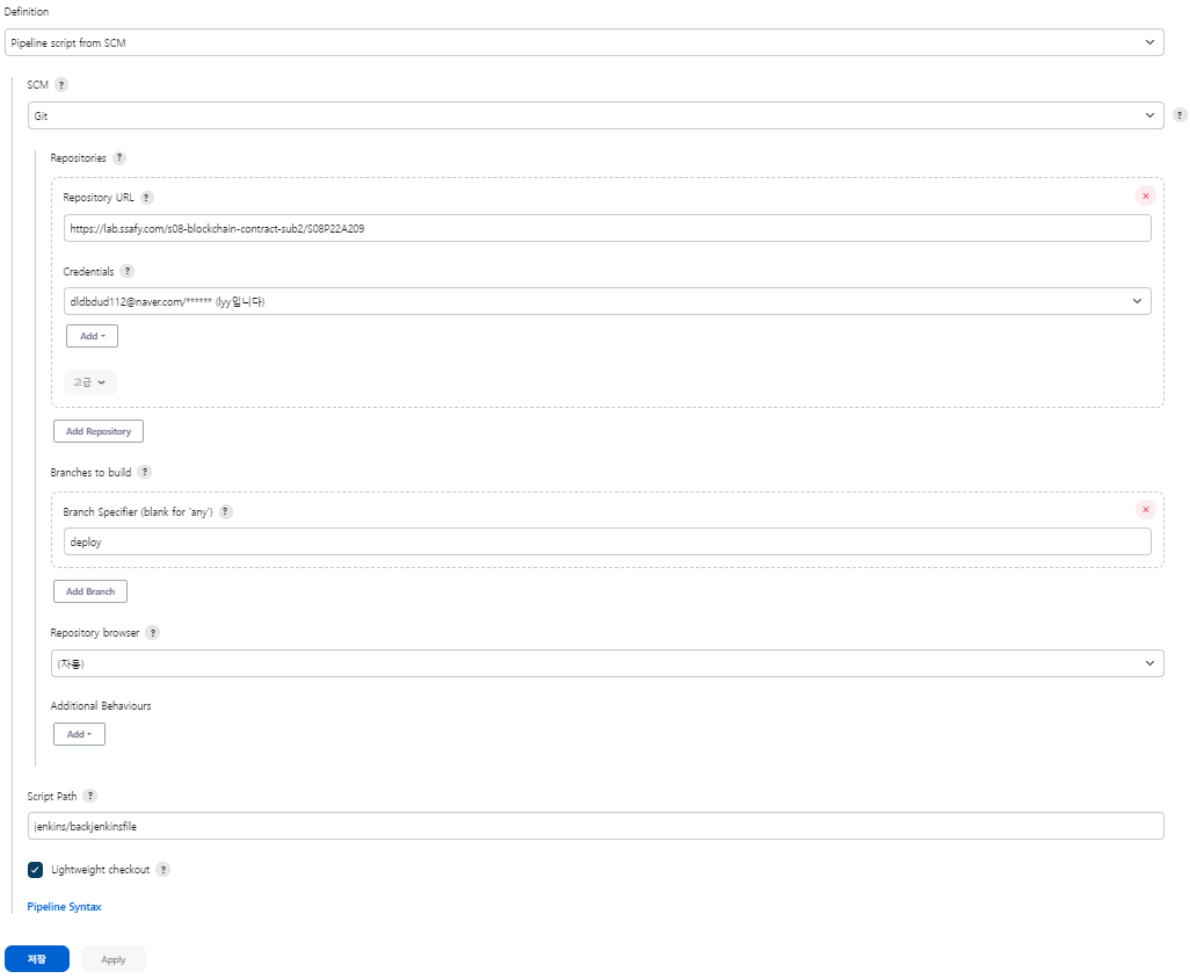
Comment (regex) for triggering a build ?

Jenkins please retry a build

고급

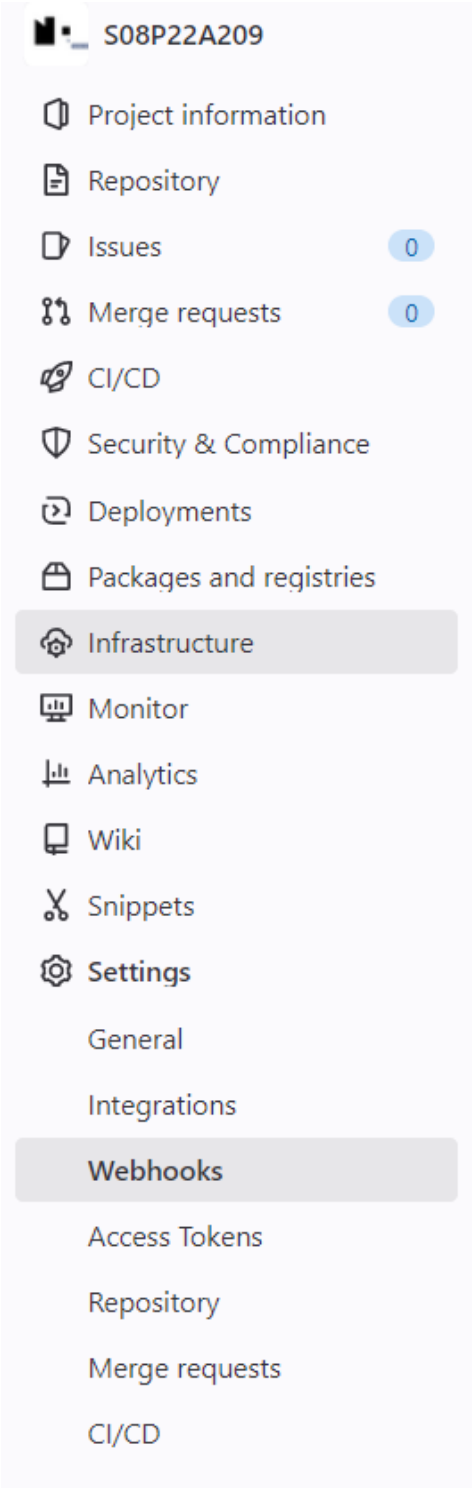
- [ ] Generic Webhook Trigger ?
- [ ] GitHub hook trigger for GITScm polling ?

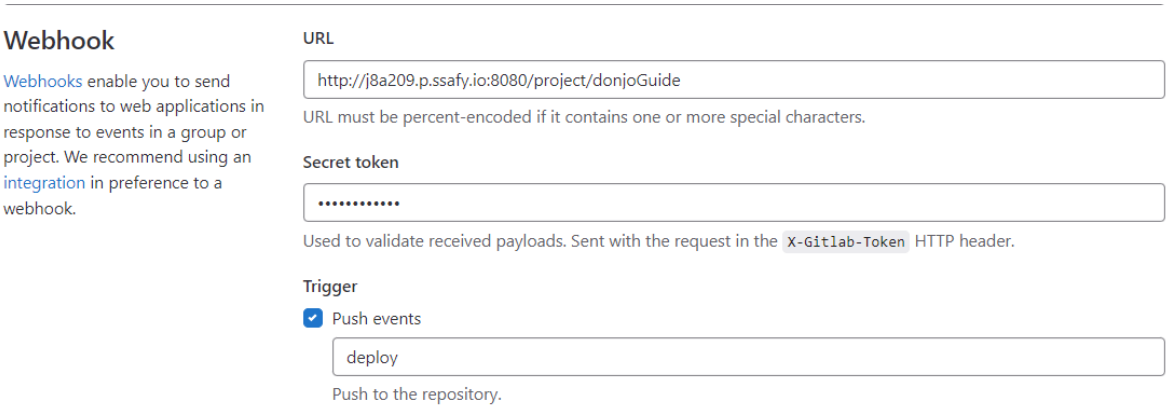
저장 Apply




설정 셋팅하기

## 5. Webhook 연결(Build Triggers URL과 Secret token 복사)


S08P22A209
Project information
Repository
Issues
0
Merge requests
0
CI/CD
Security & Compliance
Deployments
Packages and registries
Infrastructure
Monitor
Analytics
Wiki
Snippets
Settings
General
Integrations
Webhooks
Access Tokens
Repository
Merge requests
CI/CD




GitLab → Settings → WebURL Secret token 복사 붙여넣기

# 6. 프로젝트 이미지 생성 후 컨테이너 띄우기

## Backend Pipeline

```
pipeline{
    agent any
      stages{
      stage('백엔드 자동 배포') {
            stages {
                    stage('gradlew 권한'){
                        steps{
                              dir('backend'){
                              sh "chmod +x gradlew"
                                    }
                                    }
                                   }
                  stage('백엔드 이미지 생성'){
                   steps{
                       dir('backend'){
                       sh "./gradlew bootBuildImage"
                       }
                   }
                  }

                  stage('백엔드 컨테이너 삭제'){
                                  steps{
                                  catchError{
                                      sh "docker rm --force backend"
                                      }
                                                        }
                                                    }

                  stage('백엔드 컨테이너 생성') {
                    steps {
                      sh "docker run -d -p 8081:8080 --name backend backend:0.0.1-SNAPSHOT"
                    }
                  }
                }
               }
}

}
```

## Frontend Pipeline

```
pipeline {

   agent any

   stages{
    stage('프론트엔드 자동 배포'){

        stages{
            stage('프론트엔드 이미지 생성'){
                            steps{
                                dir('frontend')
                                {
                                dir('don-jo-app'){
                                sh "docker build -t react-image ."
                                }
                                }
                                }
        }
            stage('프론트엔드 컨테이너 삭제'){
                                steps{
                                catchError{
                                    sh "docker rm --force frontend"
                                    }
                                                    }
                                                }

                    stage('컨테이너 생성') {
                      steps {
                        sh "docker run -d -p 3000:3000 --name frontend react-image"
                      }
                    }
    }
    }
    }

    }
```

## Frontend Dockerfile

```
# 가져올 이미지를 정의
FROM node:14
# 경로 설정하기
WORKDIR /app
# package.json 워킹 디렉토리에 복사 (.은 설정한 워킹 디렉토리를 뜻함)
COPY package.json .
# 명령어 실행 (의존성 설치)
RUN npm install
# 현재 디렉토리의 모든 파일을 도커 컨테이너의 워킹 디렉토리에 복사한다.
COPY . .

# 각각의 명령어들은 한줄 한줄씩 캐싱되어 실행된다.
# package.json의 내용은 자주 바뀌진 않을 거지만
# 소스 코드는 자주 바뀌는데
# npm install과 COPY . . 를 동시에 수행하면
# 소스 코드가 조금 달라질때도 항상 npm install을 수행해서 리소스가 낭비된다.
```

```
# 3000번 포트 노출
EXPOSE 3000

# npm start 스크립트 실행
CMD ["npm", "start"]

# 그리고 Dockerfile로 docker 이미지를 빌드해야한다.
# $ docker build .
```

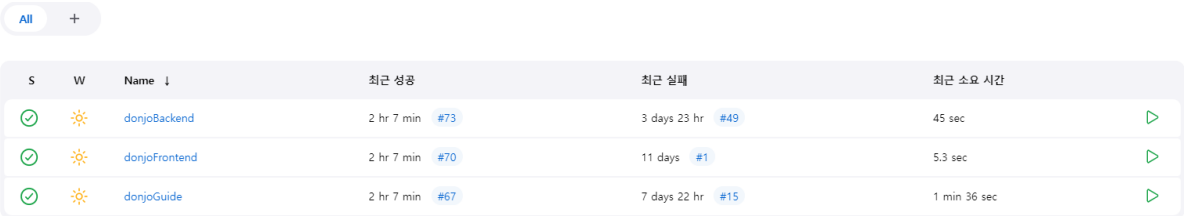
## Guide Pipeline

```
pipeline{
    agent any
      stages{
      stage('가이드 자동 배포'){

                stages{
                    stage('가이드 이미지 생성'){
                                    steps{
                                        dir('frontend-guide')
                                        {
                                        dir('my-website'){
                                        sh "docker build -t guide-image2 ."
                                        }
                                                    }
                                        }
                }
                    stage('가이드 컨테이너 삭제'){
                                            steps{
                                            catchError{
                                                sh "docker rm --force guide"
                                                }
                                                                    }
                                                                }

                            stage('컨테이너 생성') {
                              steps {

                                sh "docker run -d -p 3100:80 --name guide guide-image2"
                              }
                            }
            }
            }

}
}
```

## Guide Dockerfile

```
## Base ##############################################################################
# Use a larger node image to do the build for native deps (e.g., gcc, python)
FROM node:lts as base

# Reduce npm log spam and colour during install within Docker
ENV NPM_CONFIG_LOGLEVEL=warn
ENV NPM_CONFIG_COLOR=false

# We'll run the app as the `node` user, so put it in their home directory
```

```
WORKDIR /home/node/app
# Copy the source code over
COPY --chown=node:node . /home/node/app/

## Development ##################################################################
# Define a development target that installs devDeps and runs in dev mode
FROM base as development
WORKDIR /home/node/app
# Install (not ci) with dependencies, and for Linux vs. Linux Musl (which we use for -alpine)
RUN npm install
# Switch to the node user vs. root
USER node
# Expose port 3000
EXPOSE 80
# Start the app in debug mode so we can attach the debugger
CMD ["npm", "start"]

## Production ###################################################################
# Also define a production target which doesn't use devDeps
FROM base as production
WORKDIR /home/node/app
COPY --chown=node:node --from=development /home/node/app/node_modules /home/node/app/node_modules
# Build the Docusaurus app
RUN npm run build

## Deploy #######################################################################


## Deploy #######################################################################
# Use a stable nginx image
FROM nginx:stable-alpine as deploy
WORKDIR /home/node/app
# Copy what we've installed/built from production
COPY --chown=node:node --from=production /home/node/app/build /usr/share/nginx/html/
# Add custom Nginx configuration
COPY --chown=node:node nginx.conf /etc/nginx/conf.d/default.conf
```




3개의 Pipeline 생성

# 7. MYSQL 생성

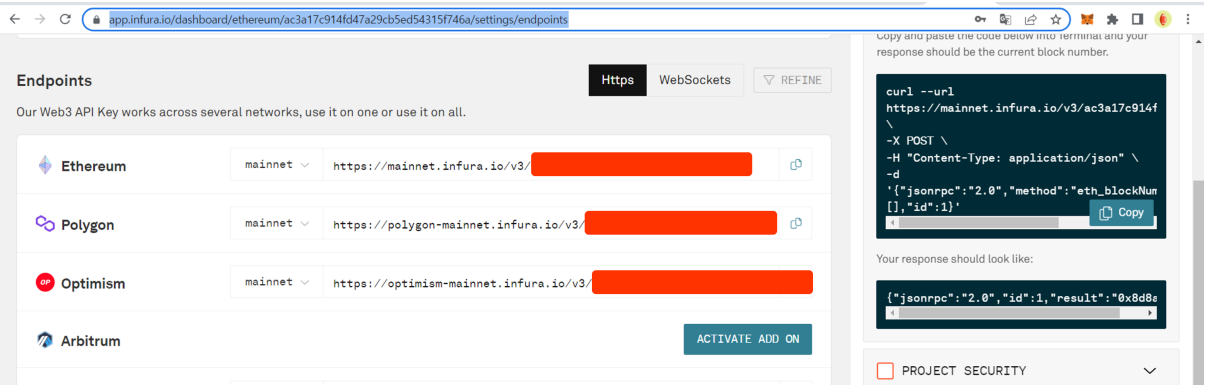
```
// MySQL Docker 이미지 다운로드
docker pull mysql
// MySQL Docker 컨테이너 생성 및 실행
docker run --name mysql-container -e MYSQL-ROOT_PASSWORD=<password> -d -p 3306:3306 mysql:latest
// Docker 컨테이너 리스트 출력
docker ps -a
```

## 8. Nginx 설정

```
server {
  listen 80;
  server_name j8a209.p.ssafy.io;
  return 301 https://j8a209.p.ssafy.io$request_uri;

}
server {
  listen 443 ssl http2;
  server_name j8a209.p.ssafy.io;

  ssl_certificate /etc/letsencrypt/live/j8a209.p.ssafy.io/fullchain.pem;
  ssl_certificate_key /etc/letsencrypt/live/j8a209.p.ssafy.io/privkey.pem;

  location / {
    proxy_pass http://j8a209.p.ssafy.io:3000;
    proxy_set_header Host $http_host;
    proxy_set_header X-Real-IP $remote_addr;
    proxy_set_header X-Forwarded-For $proxy_add_x_forwarded_for;
    proxy_set_header X-Forwarded-Proto $scheme;
  }
  location ~* ^/(api|swagger-ui|swagger-resources|v2/api-docs|v3/api-docs|webjars) {
    proxy_set_header X-Real-IP $remote_addr;
    proxy_set_header X-Forwarded-For $proxy_add_x_forwarded_for;
    proxy_set_header Host $host;
    proxy_pass http://127.0.0.1:8081;
  }

  location /guides {
    proxy_pass http://j8a209.p.ssafy.io:3100;
    proxy_set_header Host $http_host;
    proxy_set_header X-Real-IP $remote_addr;
    proxy_set_header X-Forwarded-For $proxy_add_x_forwarded_for;
    proxy_set_header X-Forwarded-Proto $scheme;
  }

}
server {
  if ($host = j8a209.p.ssafy.io) {
      return 301 https://$host$request_uri;
  } # managed by Certbot
  listen 80;
  server_name example.com;
  return 404; # managed by Certbot
}
```

## 9. Blockchain 엔드포인트 설정

Infura를 통해 폴리곤 체인의 엔드포인트를 발급 받습니다.


app.infura.io/dashboard/ethereum/ac3a17c914fd47a29cb5ed54315f746a/settings/endpoints
Endpoints
Https
WebSockets
REFINE
Our Web3 API Key works across several networks, use it on one or use it on all.
Ethereum
mainnet
https://mainnet.infura.io/v3/
Polygon
mainnet
https://polygon-mainnet.infura.io/v3/
Optimism
mainnet
https://optimism-mainnet.infura.io/v3/
Arbitrum
ACTIVATE ADD ON
response should be the current block number.
curl --url
https://mainnet.infura.io/v3/ac3a17c914f
\
-X POST \
-H "Content-Type: application/json" \
-d
'{"jsonrpc":"2.0","method":"eth_blockNum
[],"id":1}'
Copy
Your response should look like:
{"jsonrpc":"2.0","id":1,"result":"0x8d8a
PROJECT SECURITY