SGBG 포팅 메뉴얼

1. 개발환경

1.1. Frontend

- Node JS 20.15.1
- React 18.2.0
- electron 29.1.1
- Axios 1.7.7
- styled-components 6.1.13

1.2. Backend

Language

- **Java**: OpenJDK 17

Frameworks

- **Spring Boot**: 3.3.2
  - Web, Validation, WebFlux, Actuator (for health checks)
- **Spring Data JPA**: 3.3.2
- **Spring Security**: 3.3.2
- **Spring Retry**: 1.3.1 (for retry functionality in schedulers)
- **Spring Cloud AWS**: 2.2.6.RELEASE (for AWS S3 integration)
- **Springdoc OpenAPI**: 2.0.4 (for Swagger documentation)

- **Spring Data Elasticsearch**: Latest compatible with Elasticsearch High-Level Client 7.17.10

Database

- **MySQL**: Driver version 8.0.33
- **Redis**: Spring Boot Starter Data Redis (includes Redis caching)
- **MongoDB**: Not explicitly included in the dependencies but extendable through Spring Data MongoDB if needed

APIs

- **Jakarta Persistence API**: 3.1.0
- **Jakarta Servlet API**: 6.0.0

Testing

- **JUnit**: 5.8.2
- **Spring Security Test**: Integrated for security-related testing
- **Thymeleaf Security Extras**: Thymeleaf templates with Spring Security support

Build Tools

- **Gradle**: Version 7.6 (as the build automation tool)

Libraries

- **Lombok**: 1.18.26 (for boilerplate code reduction)
- **QueryDSL**: 5.1.0 (for type-safe queries with JPA and Jakarta support)
- **Guava**: 29.0-jre (for utility functions)
- **JSON (org.json)**: 20210307
- **Jsoup**: 1.7.2 (for parsing and extracting HTML)
- **Thymeleaf**: For server-side rendering

Security

- **OAuth 2.0**: Client and Resource Server
- **JWT**: Java JWT (jjwt-api 0.11.5) with Jackson support for JSON parsing

Cloud

- **AWS S3**: Integration via AWS Java SDK (Version 1.11.1000) and software.amazon SDK (Version 2.20.80)

ElasticSearch

- **Spring Data Elasticsearch**: Integrated for ease of use with Elasticsearch
- **Elasticsearch High-Level Client**: Version 7.17.10
- **Elastic Java Client**: Version 8.9.0 (for advanced use cases)

Image Processing

- **TwelveMonkeys ImageIO**: Core (3.9.4) and WebP support

Scheduler

- **Spring Retry**: 1.3.1 (with Spring Aspects)

Other

- **Base64 Processing**: JAXB API 2.3.1

1.3. Server

- Ubuntu 20.04 LTS
- Docker-compose 2.6.1
- Nginx 1.18.0
- Docker 27.3.1
- Jenkins 2.452.3

1.4. Database

- MySQL 9.0.1
- Redis 7.4.0

1.5. UI/UX

- Figma

1.6. IDE

- Visual Studio Code 1.91.1
- IntelliJ IDEA 2024.01

1.7. 형상/이슈관리

- GitLab
- Jira

1.8. 기타 툴

- Postman 11.6.2
- Termius 9.2.0

2. 환경변수

2.1. Backend(API)

application.yml

```
spring:
  application:
    name: backend

  security:
    oauth2:
      client:
        registration:
          google:
            client-id: 466186867370-iosqitk6mjeaa8u6tpm7lqnlq
            client-secret: GOCSPX-yoZ_mqQQEcDLufgbQ4BhHTmNrzd
            scope:
              - profile
              - email
            redirect-uri: "{baseUrl}/oauth2/code/google"  # 리
            authorization-grant-type: authorization_code
        provider:
```

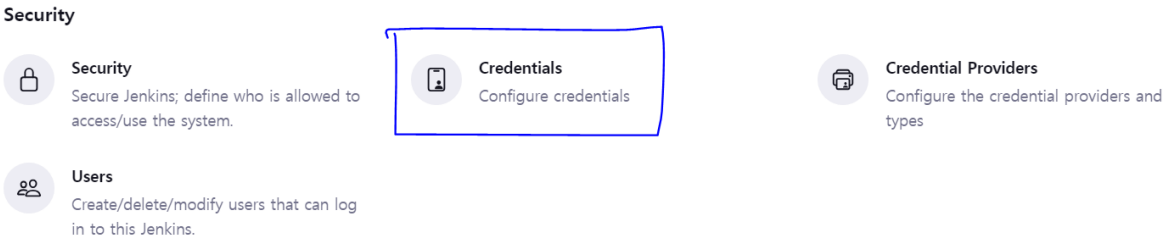
```
          google:
            authorization-uri: https://accounts.google.com/o/
            token-uri: https://oauth2.googleapis.com/token  #
            user-info-uri: https://www.googleapis.com/oauth2/
            user-name-attribute: sub  # 사용자 정보를 식별하는 속성

  datasource:
    url: jdbc:mysql://k11b205.p.ssafy.io:3306/sgbg?createData
    username: sgbg
    password: sgbg
    driver-class-name: com.mysql.cj.jdbc.Driver

  jpa:
    hibernate:
      ddl-auto: update
    properties:
      hibernate:
        dialect: org.hibernate.dialect.MySQLDialect
        naming:
          physical-strategy: org.hibernate.boot.model.naming.

  elasticsearch:
    uris: k11b205.p.ssafy.io:9200
    username: sgbg
    password: sgbg
#  main:
#    allow-bean-definition-overriding: true

  cache:
    type: redis

  redis:
    host: k11b205.p.ssafy.io
    port: 6379
    password: sgbg

  # redis-keyword 인스턴스 설정
  redis-keyword:
```

```
    host: k11b205.p.ssafy.io
    port: 6380
    password: sgbg

  # redis-user 인스턴스 설정
  redis-user:
    host: k11b205.p.ssafy.io
    port: 6381
    password: sgbg

jwt:
  secretkey: IWJqam6tBDpBs7bm1/yreAjlg3xVlGYflC1glzfKGn4=

openai:
  model: gpt-4o
  api:
    key: sk-proj-TfyB5rabijdf9mfudrIyr_BjwAGHdrAvQPckyTI34tUu
    url: https://api.openai.com

google:
  vision:
    api-key: AIzaSyDqwJw6qknWfRBqmdzVyPuvpxi2zDh2o1s
    credential-json: |
      {
        "type": "service_account",
        "project_id": "genial-moon-439615-a5",
        "private_key_id": "fb42dec2d74e5fd60422e4cfd41b0a589b
        "private_key": "-----BEGIN PRIVATE KEY-----\nMIIEvgIB
        "client_email": "singblebungle@genial-moon-439615-a5.
        "client_id": "105542841769930751826",
        "auth_uri": "https://accounts.google.com/o/oauth2/aut
        "token_uri": "https://oauth2.googleapis.com/token",
        "auth_provider_x509_cert_url": "https://www.googleapi
        "client_x509_cert_url": "https://www.googleapis.com/r
        "universe_domain": "googleapis.com"
      }

server:
```

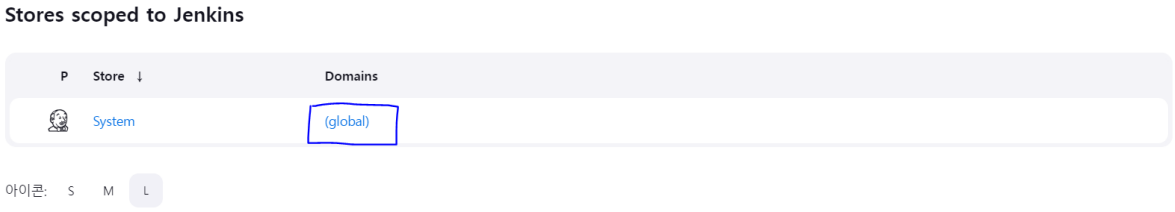
```
  port: ${SERVER_PORT:8081} # 기본값은 8081, 환경 변수 SERVER_POR
  address: 0.0.0.0
  servlet:
    context-path: /api
    encoding:
      charset: UTF-8
      enabled: true
      force: true

management:
  endpoints:
    web:
      exposure:
        include: health

# S3 bucket connection
cloud:
  aws:
    credentials:
      accessKey: AKIA6GBMGD5ZBLFCK5WX
      secretKey: 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
    s3:
      bucketName: sgbgbucket
    region:
      static: ap-northeast-2
    stack:
      auto: false

springdoc:
  swagger-ui:
    path: /swagger-ui.html

logging:
  level:
    org.elasticsearch.client.RestClient: ERROR
    org.springframework.web: WARN
    org.springframework.security: WARN
    org.apache.tomcat: WARN
```

2.2. 민감 환경변수 관리

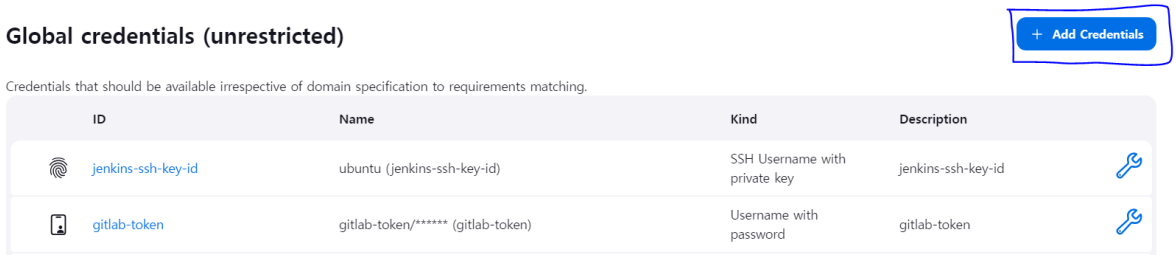
Jenkins credentials 로 민감 환경변수 설정 파일 수동 저장 및 관리
(.gitignore에 추가하여 GitLab에 푸시되는 일이 없도록 함)



Jenkins 설정의 Credentials 로 간다.



(global) 도메인으로 만든다.



Add Credentials로 새로운 Crdential을 만든다.

Secret 파일에 민감한 환경변수 파일을 넣고, 파이프라인 구성시 필요한 환경변수 파일을 복사해서 이미지를 빌드하는 형식으로 진행

3. EC2 세팅

3.1. Docker 설치

```
# 1. 리눅스 업데이트
sudo apt update -y && sudo apt upgrade -y

# 1.1 필수 패키지 설치
sudo apt-get install -y ca-certificates curl gnupg lsb-releas

# 2. Docker의 공식 GPG 키를 추가할 디렉토리 생성
sudo mkdir -p /etc/apt/keyrings

# 3. Docker의 GPG 키 다운로드 및 바이너리 형식으로 변환하여 저장
curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sud

# 4. Docker 저장소를 추가
echo \
  "deb [arch=$(dpkg --print-architecture) signed-by=/etc/apt/
  $(lsb_release -cs) stable" | sudo tee /etc/apt/sources.list
```

```
# 5. 패키지 목록 업데이트
sudo apt-get update

# 6. Docker 패키지 설치
sudo apt-get install -y docker-ce docker-ce-cli containerd.io

# 7. Docker 데몬을 시작하고 부팅 시 자동으로 시작하도록 설정
sudo systemctl start docker
sudo systemctl enable docker
```

3.2. Docker-compose 설정

```
version: '3.8'

services:
  nginx:
    image: nginx:latest
    restart: always
    environment:
      - LISTEN_PORT=443  # 환경 변수 LISTEN_PORT 추가
    volumes:
      - ./data/nginx/nginx.conf:/etc/nginx/nginx.conf
      - ./data/certbot/conf:/etc/letsencrypt
      - ./data/certbot/www:/var/www/certbot
    ports:
      - "80:80"
      - "443:443"
    command: "/bin/sh -c 'while :; do sleep 320h & wait $${!}
    depends_on:
      - landing_frontend  # 랜딩 페이지 프론트엔드 의존성 추가
      - other_frontend  # 다른 페이지 프론트엔드 의존성 추가
    logging:
      driver: "json-file"
      options:
        max-size: "10m"
        max-file: "1"
```

```
  certbot:
    image: certbot/certbot
    restart: unless-stopped
    environment:
          TZ: Asia/Seoul
    volumes:
      - ./data/certbot/conf:/etc/letsencrypt
      - ./data/certbot/www:/var/www/certbot
    entrypoint: "/bin/sh -c 'trap exit TERM; while :; do cert
    logging:
      driver: "json-file"
      options:
        max-size: "10m"
        max-file: "1"

  certbot:
    image: certbot/certbot
    restart: unless-stopped
    environment:
          TZ: Asia/Seoul
    volumes:
      - ./data/certbot/conf:/etc/letsencrypt
      - ./data/certbot/www:/var/www/certbot
    entrypoint: "/bin/sh -c 'trap exit TERM; while :; do cert
    logging:
      driver: "json-file"
      options:
        max-size: "10m"
        max-file: "1"

  jenkins:
    image: jenkins/jenkins:lts
    restart: unless-stopped
    volumes:
      - jenkins_home:/var/jenkins_home
      - ./data/jenkins:/var/jenkins_shared
      - /var/run/docker.sock:/var/run/docker.sock  # Docker 소
      - /usr/local/bin/docker-compose:/usr/local/bin/docker-c
```

```
      - /usr/bin/docker:/usr/bin/docker  # Docker CLI 바이너리
      - /home/ubuntu/plog:/home/ubuntu/plog  # 호스트의 프로젝트
    ports:
      - "8080:8080"
      - "50000:50000"
    environment:
      JENKINS_OPTS: --prefix=/jenkins
      JAVA_OPTS: -Djava.util.logging.config.file=/var/jenkins
      TZ: Asia/Seoul
    logging:
      driver: "json-file"
      options:
        max-size: "10m"
        max-file: "1"

  backend:
    image: backend:latest
    restart: unless-stopped
    expose:
      - "8081" # 내부포트 8081
    environment:
      SPRING_PROFILES_ACTIVE: prod
      SERVER_PORT: 8081  # 환경 변수로 포트 설정
      TZ: Asia/Seoul
      LOG_FILE_PATH: backend

  other_frontend:  # 다른 페이지 프론트엔드
    image: other_frontend:latest
    restart: unless-stopped
    environment:
      NODE_ENV: production
      TZ: Asia/Seoul
      LISTEN_PORT: 3001  # Nginx에서 사용할 포트를 환경 변수로 설정
    expose:
      - "3001" # 내부포트 3001

  landing_frontend:  # 랜딩 페이지 전용 프론트엔드
    image: landing_frontend:latest
```

```
    restart: unless-stopped
    environment:
      NODE_ENV: production
      TZ: Asia/Seoul
      LISTEN_PORT: 3000  # Nginx에서 사용할 포트를 환경 변수로 설정
    expose:
      - "3000" # 내부포트 3000

  mysql:
    image: mysql:latest
    container_name: mysql
    restart: unless-stopped
    environment:
      MYSQL_ROOT_PASSWORD: sgbg
      MYSQL_DATABASE: sgbg
      MYSQL_USER: sgbg
      MYSQL_PASSWORD: sgbg
      TZ: Asia/Seoul
    volumes:
      - ./data/mysql_data:/var/lib/mysql
    expose:
      - "3306"
    ports:
      - "3306:3306"

  redis:
    image: redis:latest
    restart: unless-stopped
    command: redis-server --requirepass sgbg
    expose:
       - "6379"
    ports:
       - "6379:6379"

  redis-keyword:
    image: redis:latest
    restart: unless-stopped
    command: redis-server --requirepass sgbg
```

```
    expose:
       - "6379"
    ports:
       - "6380:6379"

  redis-user:
    image: redis:latest
    restart: unless-stopped
    command: redis-server --requirepass sgbg
    expose:
       - "6379"
    ports:
       - "6381:6379"

  redisinsight:
                image: redis/redisinsight:latest
                restart: unless-stopped
                ports:
                        - "5540:5540"
                volumes:
                        - ./data/redis/insight:/db
                        - ./data/redis/insight/log:/db/logs
                depends_on:
                        - redis
                environment:
                        TZ: Asia/Seoul

  elasticsearch:
                image: elasticsearch:7.17.0
                restart: unless-stopped
                ports:
                        - "9200:9200"
                environment:
                        - discovery.type=single-node
                        - network.host=0.0.0.0  # 모든 인터페이스
                        - ES_JAVA_OPTS=-Xms2g -Xmx2g  # 메모리
                        - TZ=Asia/Seoul
                volumes:
```

```
                        - ./data/elasticsearch:/usr/share/ela
                expose:
                        - "9200"

  kibana:
                image: kibana:7.17.0
                restart: unless-stopped
                ports:
                        - "5601:5601"
                depends_on:
                        - elasticsearch
                environment:
                        - ELASTICSEARCH_HOSTS=http://elastics
                        - TZ=Asia/Seoul
                        - SERVER_BASEPATH=/kibana
                        - SERVER_REWRITEBASEPATH=true
                        - SERVER_PUBLICBASEURL=https://k11b20
                        - XPACK_SECURITY_ENABLED=false
                expose:
                        - "5601"

volumes:
  jenkins_home:
  mysql_data:
  redis:
  redis-keyword:
  redis-user:
  redisinsight:
```

3.3. Nginx 설정

```
user  nginx;
worker_processes  1;

error_log  /var/log/nginx/error.log warn;
pid        /var/run/nginx.pid;
```

```
events {
    worker_connections  1024;
}

http {
    include       /etc/nginx/mime.types;
    default_type  application/octet-stream;

    log_format  main  '$remote_addr - $remote_user [$time_loc
                      '$status $body_bytes_sent "$http_refere
                      '"$http_user_agent" "$http_x_forwarded_
                      '"$host" "$server_name" "$request_uri"
                      '"$request_body" "$args" "$upstream_add

    access_log  /var/log/nginx/access.log  main;

    sendfile        on;
    keepalive_timeout  65;

    # 요청 제한 설정
    limit_req_zone $binary_remote_addr zone=mylimit:10m rate=

    server {
        listen 80;
        server_name k11b205.p.ssafy.io;
        server_tokens off;

        location /.well-known/acme-challenge/ {
            root /var/www/certbot;
        }

        location / {
            return 301 https://$host$request_uri;
        }

    }
```

```
    server {
        listen 443 ssl;
        server_name k11b205.p.ssafy.io;
        server_tokens off;

        ssl_certificate /etc/letsencrypt/live/k11b205.p.ssafy
        ssl_certificate_key /etc/letsencrypt/live/k11b205.p.s
        include /etc/letsencrypt/options-ssl-nginx.conf;
        ssl_dhparam /etc/letsencrypt/ssl-dhparams.pem;

        # 요청 제한 설정 적용
        location / {
            limit_req zone=mylimit burst=10 nodelay;
            limit_req_status 429;
            # 요청이 너무 많을 경우 429 에러 반환

            # 프록시 설정 주석 처리
            # proxy_pass https://your_backend_server;
            # proxy_set_header Host $host;
            # proxy_set_header X-Real-IP $remote_addr;
            # proxy_set_header X-Forwarded-For $proxy_add_x_f
            # proxy_set_header X-Forwarded-Proto $scheme;
            proxy_pass http://other_frontend:3001;  # 다른 페이
            #proxy_pass http://landing_frontend:3000;  # 랜딩
            proxy_set_header Host $host;
            proxy_set_header X-Real-IP $remote_addr;
            proxy_set_header X-Forwarded-For $proxy_add_x_for
            proxy_set_header X-Forwarded-Proto $scheme;
            proxy_set_header X-Forwarded-Port 443;
        }

        # 다른 경로로 접속 시 다른 프론트엔드 컨테이너로 연결
        location /landing/ {
            limit_req zone=mylimit burst=10 nodelay;
            limit_req_status 429;

            # /landing 경로를 다른 프론트엔드 컨테이너로 프록시
            proxy_pass http://landing_frontend:3000/landing/;
```

```
        proxy_set_header Host $host;
        proxy_set_header X-Real-IP $remote_addr;
        proxy_set_header X-Forwarded-For $proxy_add_x_for
        proxy_set_header X-Forwarded-Proto $scheme;
        proxy_set_header X-Forwarded-Port 443;
    }

    # Jenkins 리버스 프록시 설정 (8080 포트)
    location /jenkins {
        proxy_pass http://jenkins:8080/jenkins;
        proxy_set_header Host $host:443;
        proxy_set_header X-Real-IP $remote_addr;
        proxy_set_header X-Forwarded-For $proxy_add_x_for
        proxy_set_header X-Forwarded-Proto $scheme;
        proxy_set_header X-Forwarded-Port 443;

        proxy_http_version 1.1;

    }

    # Jenkins의 50000 포트에 대한 리버스 프록시 설정
    location /jenkins-jnlp {
        proxy_pass http://jenkins:50000;
        proxy_set_header Host $host;
        proxy_set_header X-Real-IP $remote_addr;
        proxy_set_header X-Forwarded-For $proxy_add_x_for
        proxy_set_header X-Forwarded-Proto $scheme;
    }

    # backend 리버스 프록시 설정
    location /api/ {
        proxy_pass http://backend:8081;
        proxy_set_header Host $host;
        proxy_set_header X-Real-IP $remote_addr;
        proxy_set_header X-Forwarded-For $proxy_add_x_for
        proxy_set_header X-Forwarded-Proto $scheme;
    }
```

```
        # Kibana 리버스 프록시 설정
        location /kibana/ {
            proxy_pass http://kibana:5601;
            proxy_http_version 1.1;
            proxy_set_header Upgrade $http_upgrade;
            proxy_set_header Connection 'upgrade';
            proxy_set_header Host $host;
            proxy_set_header X-Real-IP $remote_addr;
            proxy_set_header X-Forwarded-For $proxy_add_x_for
            proxy_set_header X-Forwarded-Proto $scheme;
        }

        location /elasticsearch/ {
            proxy_pass http://elasticsearch:9200;
            proxy_http_version 1.1;
            proxy_set_header Upgrade $http_upgrade;
            proxy_set_header Connection 'upgrade';
            proxy_set_header Host $host;
            proxy_set_header X-Real-IP $remote_addr;
            proxy_set_header X-Forwarded-For $proxy_add_x_for
            proxy_set_header X-Forwarded-Proto $scheme;
        }

        location /redisinsight/ {
            proxy_pass http://redisinsight:5540/redisinsight/
            proxy_http_version 1.1;
            proxy_set_header Upgrade $http_upgrade;
            proxy_set_header Connection 'upgrade';
            proxy_set_header Host $host;
            proxy_set_header X-Real-IP $remote_addr;
            proxy_set_header X-Forwarded-For $proxy_add_x_for
            proxy_set_header X-Forwarded-Proto $scheme;
        }
    }
}
```

3.4. EC2 Port

Port 번호	내용
22	SSH
80	HTTP (HTTPS로 redirect)
443	HTTPS
3000, 3001	Nginx, React(Docker)
5601	kibana
5540	redisInsight(GUI)
6379	redis, redis-keyword, redis-user
8080	Jenkins
8081	spring boot(api)
9200	elasticsearch

3.5. 방화벽(UFW) 설정

```
ufw 상태 확인
sudo ufw status
Status: active

To                         Action      From
--                         ------      ----
22                         ALLOW       Anywhere
8989                       ALLOW       Anywhere
443                        ALLOW       Anywhere
80                         ALLOW       Anywhere
8080                       ALLOW       Anywhere
9200                       ALLOW       Anywhere
5601                       ALLOW       Anywhere
3306                       ALLOW       Anywhere
5540                       ALLOW       Anywhere
6379                       ALLOW       Anywhere
6380                       ALLOW       Anywhere
6381                       ALLOW       Anywhere
22 (v6)                    ALLOW       Anywhere (v6)
8989 (v6)                  ALLOW       Anywhere (v6)
443 (v6)                   ALLOW       Anywhere (v6)
80 (v6)                    ALLOW       Anywhere (v6)
```

```
8080 (v6)                  ALLOW       Anywhere (v6)
9200 (v6)                  ALLOW       Anywhere (v6)
5601 (v6)                  ALLOW       Anywhere (v6)
3306 (v6)                  ALLOW       Anywhere (v6)
5540 (v6)                  ALLOW       Anywhere (v6)
6379 (v6)                  ALLOW       Anywhere (v6)
6380 (v6)                  ALLOW       Anywhere (v6)
6381 (v6)                  ALLOW       Anywhere (v6)

사용할 포트 허용하기
sudo ufw allow 포트번호

ufw 활성화하기
sudo ufw enable

등록한 포트 삭제하기
sudo ufw status numbered
sudo ufw delete 4
```

4. CI/CD 구축

4.1. Jenkins 도커 이미지 + 컨테이너

docker-compose.yml 내부

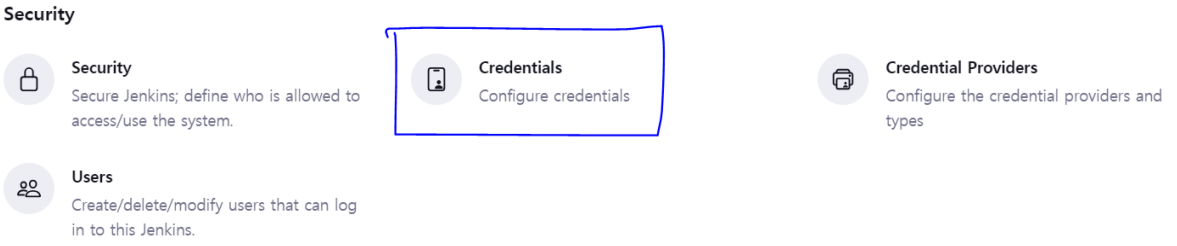
```
  jenkins:
    image: jenkins/jenkins:lts
    restart: unless-stopped
    volumes:
      - jenkins_home:/var/jenkins_home
      - ./data/jenkins:/var/jenkins_shared
      - /var/run/docker.sock:/var/run/docker.sock  # Docker 소
      - /usr/local/bin/docker-compose:/usr/local/bin/docker-c
      - /usr/bin/docker:/usr/bin/docker  # Docker CLI 바이너리
      - /home/ubuntu/plog:/home/ubuntu/plog  # 호스트의 프로젝트
    ports:
      - "8080:8080"
```

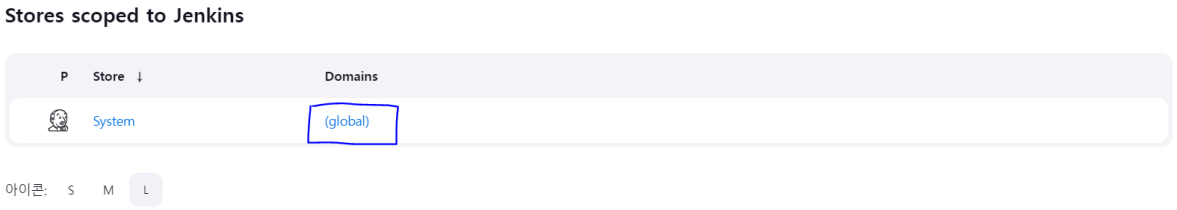
```
      - "50000:50000"
    environment:
      JENKINS_OPTS: --prefix=/jenkins
      JAVA_OPTS: -Djava.util.logging.config.file=/var/jenkins
      TZ: Asia/Seoul
```

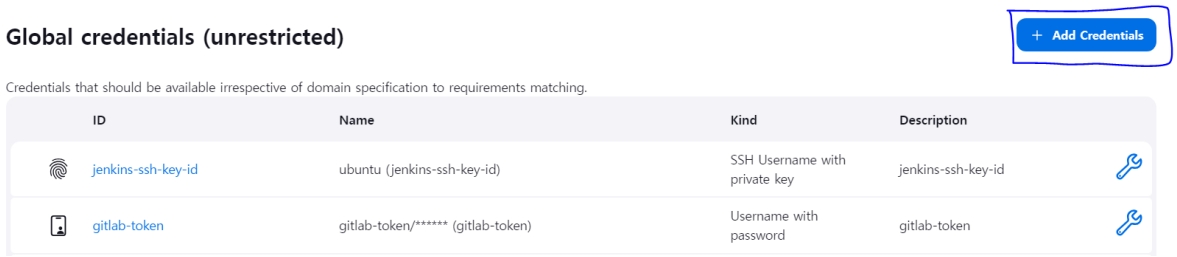
4.2. Jenkins 설정

4.2.1 GitLab Credentials 설정

1. 아이디 → “Credentials” 클릭
2. “Store : System” → “(global)” → “+ Add Credentials” 클릭





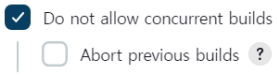


3. “Kind”에 “Username with password” 입력 → “Username”에 GitLab ID 혹은 원하는 ID 입력(gitlab-token) → “Password”에 Gitlab Personal Access Tokens 입력 → “ID”에 임의 아이디 입력(gitlab-token) → 생성
   *** Personal Access Token은 Gitlab > User Settings > Access Tokens에서 생성

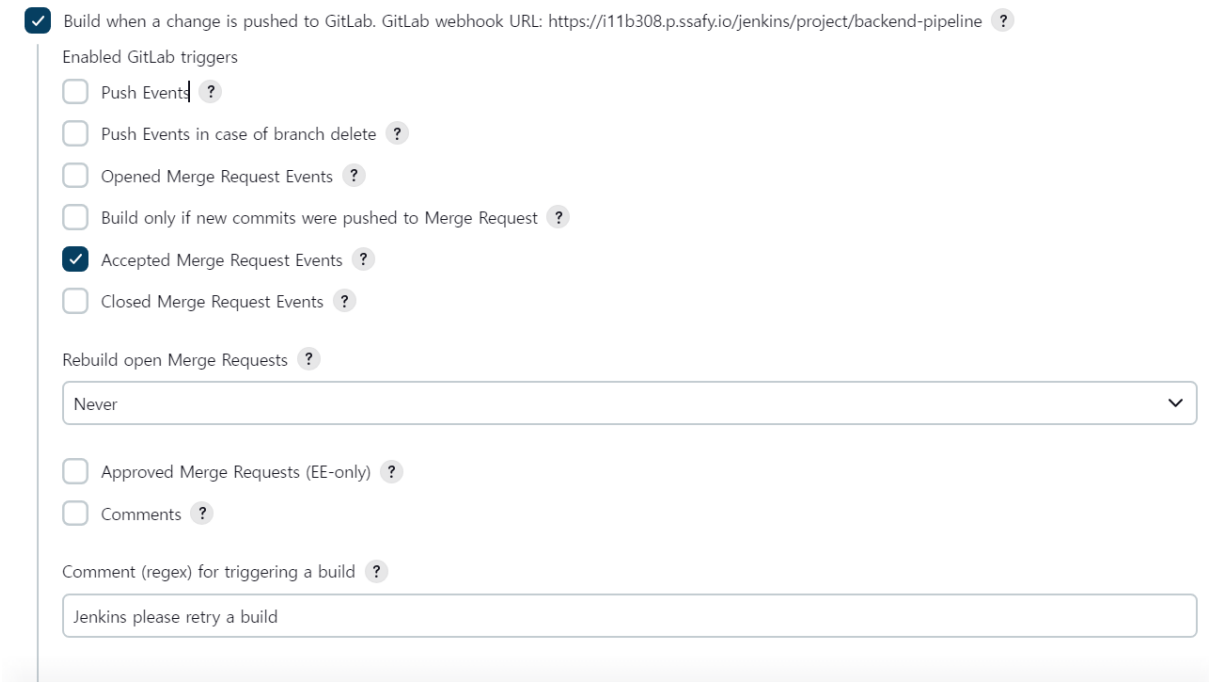
4.2.2 Jenkins Item 생성

1. “새로운 Item” 클릭
2. “Enter an item name”에 임의 Item 이름 입력 → “Pipeline” 클릭

3. “General” → “Do not allow concurrent builds” 클릭
   (한 빌드를 진행중이면 동시에 빌드를 진행하지 않게 한다)

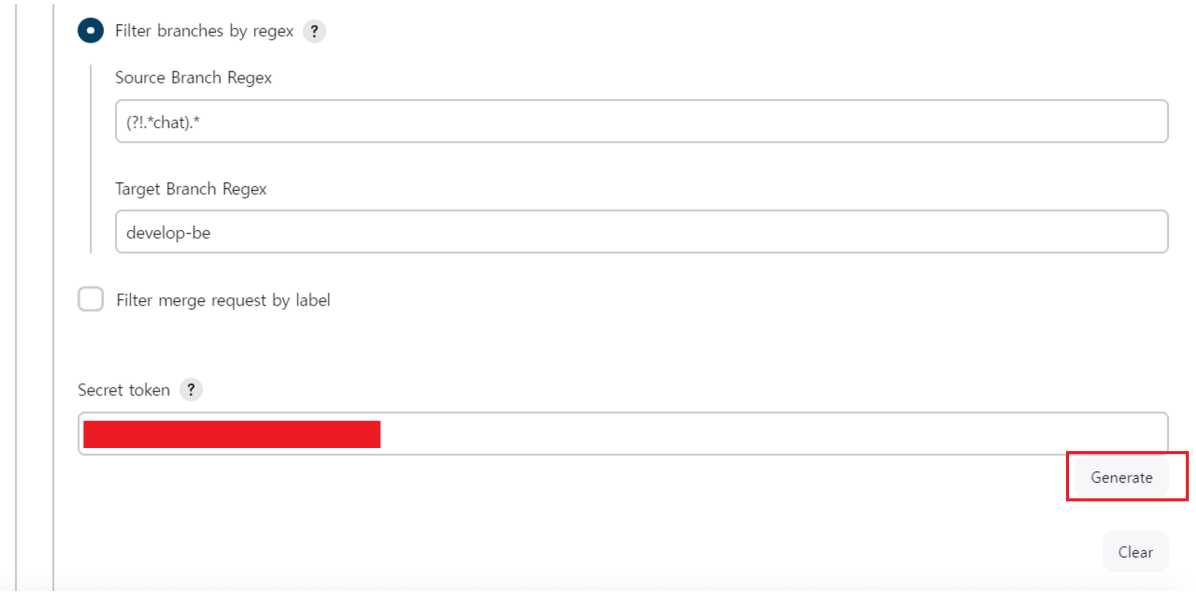


4. “Build Triggers” → “Build when a change is pushed to GitLab” 클릭
   (WebHook 설정 : GitLab 특정 브랜치 merge 시 자동 빌드 + 배포 설정)
   (해당 URL 복사 → WebHook 설정 시 사용 예정)

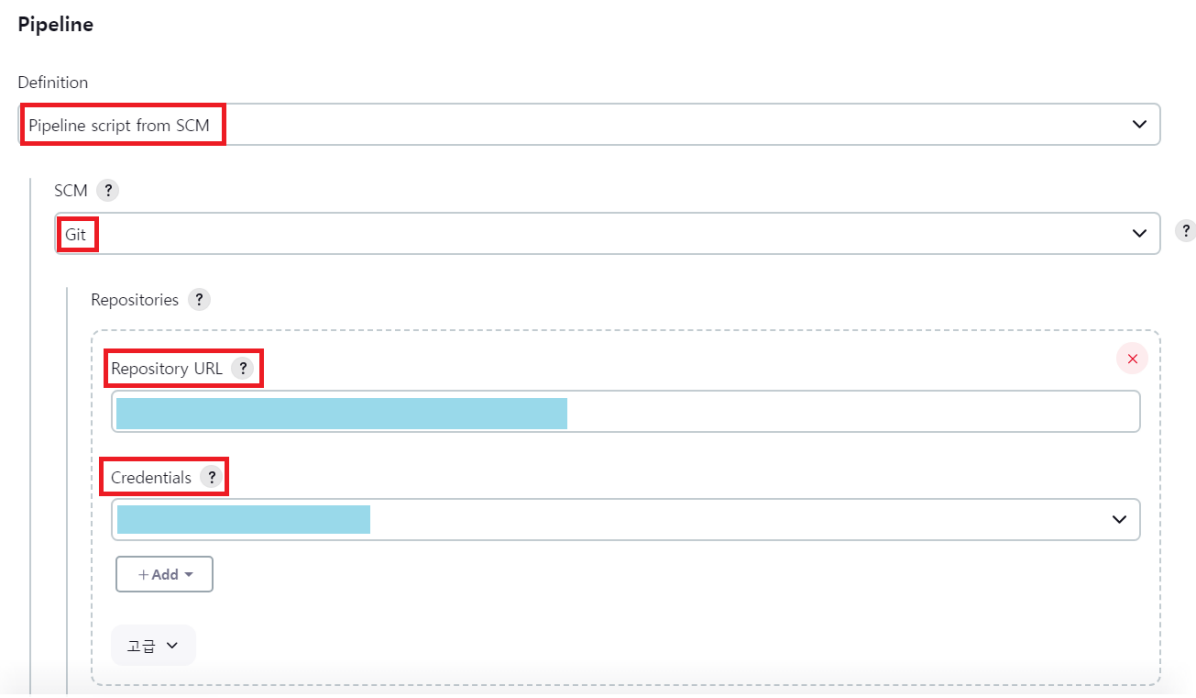


5. “Build when a change is pushed to GitLab” 하위의 “고급...” 클릭

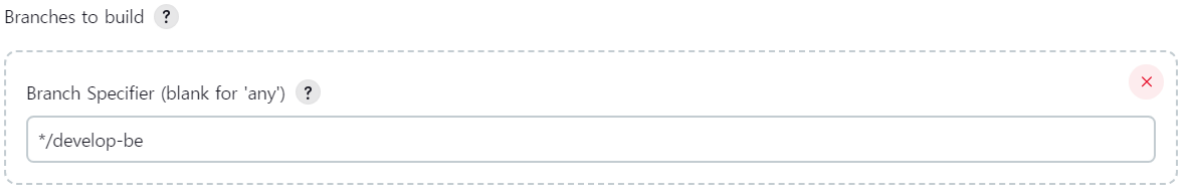
6. 특정 브랜치에서 타겟 브랜치로 머지를 할 경우 빌드 + 배포가 진행되도록 설정
   Secret token의 “Generate” 클릭 후 생성된 토큰값 복사



7. “Pipeline” → “Definition”에 Pipeline script from SCM 설정 → “SCM”에 “Git” 설정 → “Repository URL”에 프로젝트 GitLab URL 입력 → “Credentials”에 사전에 추가한 Credentials 입력



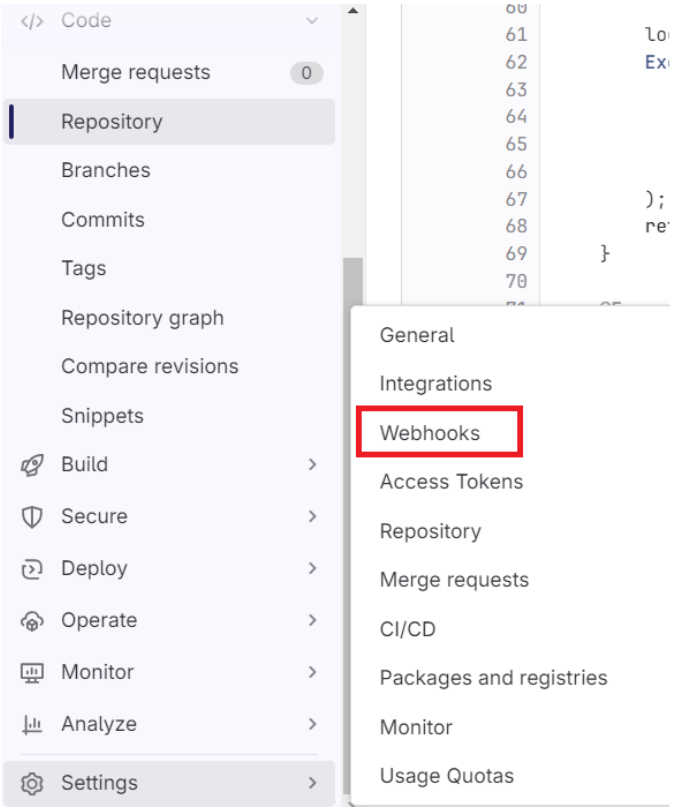
8. “Branch Specifier”에 빌드 할 브랜치명 입력 (master일 시 “*/master)



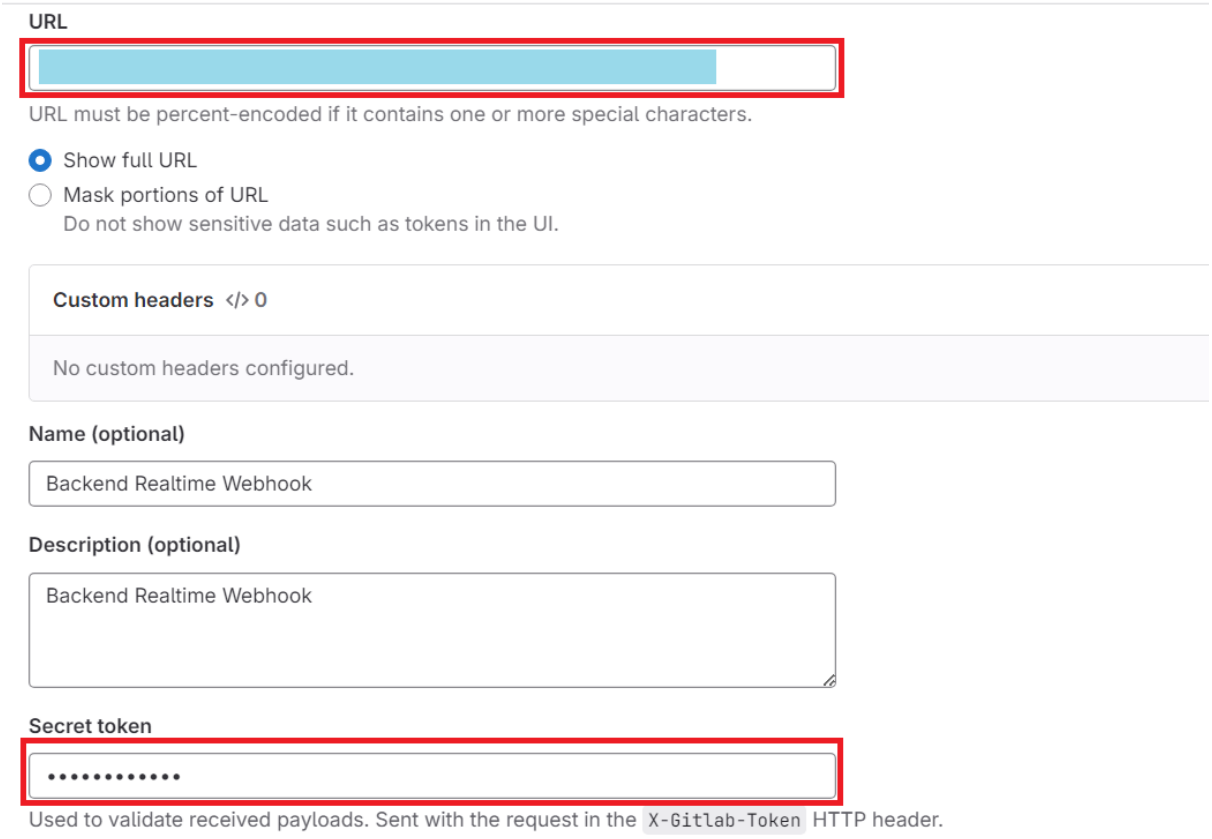
9. “Script Path”에 Jenkinsfile 경로 입력

4.2.3. GitLab Webhook 설정

1. 프로젝트 GitLab → “Settings” → “Webhooks” 클릭



2. “URL”에 사전에 복사해놓은 Jenkins URL 입력 → “Secret token”에 사전에 복사해놓은 Secret token 입력 → “Merge request events” 클릭
후 WebHook 적용 브랜치 입력 (Jenkins Branch Specifier과 일치하여야 함)



4.2.4. 빌드 및 배포

> Option 1. 상기 WebHook 설정한 브랜치로 merge

> Option 2. Jenkins 홈 화면 → Jenkins Item 클릭 → “지금 빌드” 클릭

5. Redis 설정

docker-compose.yml 내부

```
  redis:
    image: redis:latest
    restart: unless-stopped
    command: redis-server --requirepass sgbg
    expose:
       - "6379"
    ports:
       - "6379:6379"
```

```
  redis-keyword:
    image: redis:latest
    restart: unless-stopped
    command: redis-server --requirepass sgbg
    expose:
       - "6379"
    ports:
       - "6380:6379"

  redis-user:
    image: redis:latest
    restart: unless-stopped
    command: redis-server --requirepass sgbg
    expose:
       - "6379"
    ports:
       - "6381:6379"

  redisinsight:
    image: redis/redisinsight:latest
    restart: unless-stopped
    ports:
            - "5540:5540"
    volumes:
            - ./data/redis/insight:/db
            - ./data/redis/insight/log:/db/logs  # 로그 디렉토리
    depends_on:
            - redis
    environment:
            TZ: Asia/Seoul
```

6. 시연 시나리오

6.1 랜딩 페이지

- 확장 프로그램 설치 버튼 클릭

- 구글 확장 프로그램 설치
- 확장 프로그램에서 구글 소셜 로그인 진행

6.2 웹 상 확장 프로그램

- 웹에서 드래그 앤 드롭으로 이미지 저장
- 서비스 내 생성되어있는 자신의 디렉토리에서 원하는 폴더에 저장

6.3 데스크톱 앱 - 홈 화면

- 확장 프로그램 내 경로를 통해 데스크톱 앱 열기
- 전체 이미지로 이동하여 저장된 자신의 이미지와 다른 유저들이 저장한 이미지 조회
- 이미지를 클릭하여 이미지 상세화면 조회
  - 생성된 키워드, 원본 이미지 URL
  - 이미지 URL, 파일 복사 가능
- 생성된 키워드를 이미지 상세화면에서 클릭하거나 검색창에서 검색하면 해당 키워드를 가진 이미지들을 조회 가능
- 조회, 검색, 저장 횟수를 기준으로 키워드 랭킹 조회 가능

6.4 데스크톱 앱 - 내 디렉토리

- 이미지를 저장했던 자신의 디렉토리에서 저장된 이미지 확인
- 저장한 이미지 삭제 시 휴지통으로 이동하고 휴지통에서 영구삭제 가능
- 디렉토리 생성, 이름 수정, 순서 변경, 삭제 가능

6.5 데스크톱 앱 - 설정 화면

- 시작 앱 설정 가능
- 트레이 최소화 설정 가능