8 7

리마인드

가상화 / 컨테이너화 (virtualization / containerization)

- 서버 가상화

  서비스를 제공 front end 서비스 db 서비스

- 데스크톱 가상화

  워드 프로세스 파워포인트 업무용 서비스

- 컨테이너

  커널 x 가장 두드러진 특징

  커널을 안 올리기에 부팅이 빠르다

  정확히는 부팅이라는 것 자체가 없는 편 다운타임이 최소화

실습

1 도커

- install_docker.sh

```
#!/bin/bash

sudo systemctl stop firewalld
sudo systemctl disable firewalld
sudo curl -o /etc/yum.repos.d/docker-ce.repo https://download.docker.com/linux/cen
sudo yum install -y docker-ce

sudo systemctl start docker
sudo systemctl enable docker

# docker run --rm hello-world
```

- set_dns.sh

```
#!/bin/bash

cp hosts /etc/hosts
yum install -y dnsmasq
systemctl start dnsmasq
systemctl enable dnsmasq
```

2 깃

- create_sert.sh

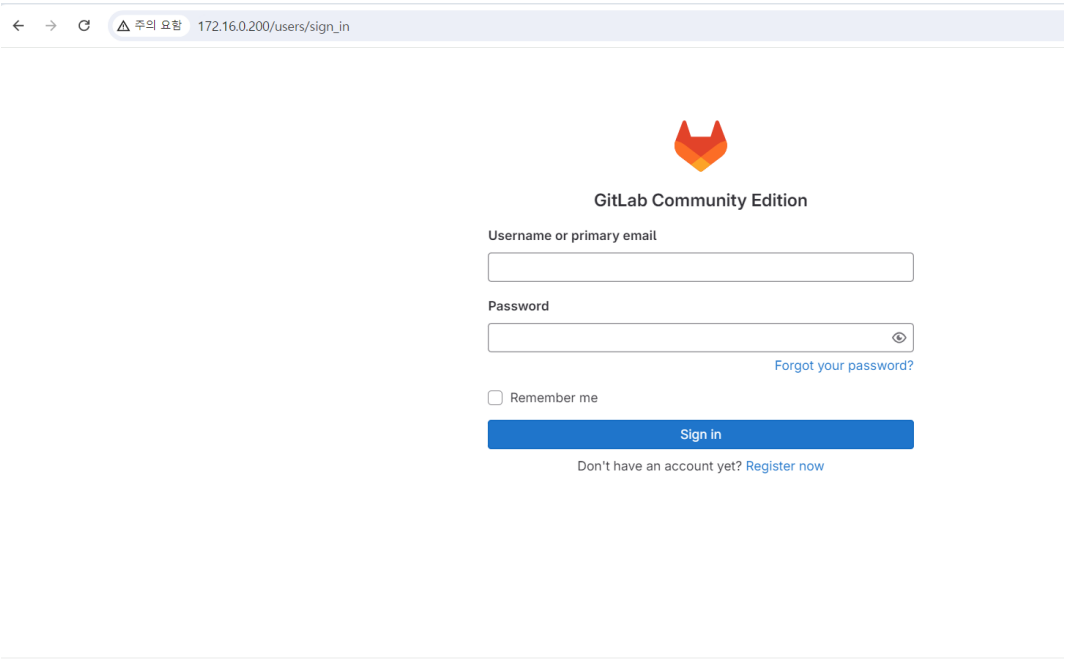
```
#!/bin/bash

mkdir /auth

openssl \
req -newkey rsa:4096 -nodes -sha256 -x509 \
-days 365 -keyout /auth/myregistry.com.key -out /auth/myregistry.com.crt \
-subj '/CN=myregistry.com' \
-addext "subjectAltName = DNS:myregistry.com"

mkdir -p /etc/docker/certs.d/myregistry.com
cp /auth/myregistry.com.crt /etc/docker/certs.d/myregistry.com/ca.crt
```

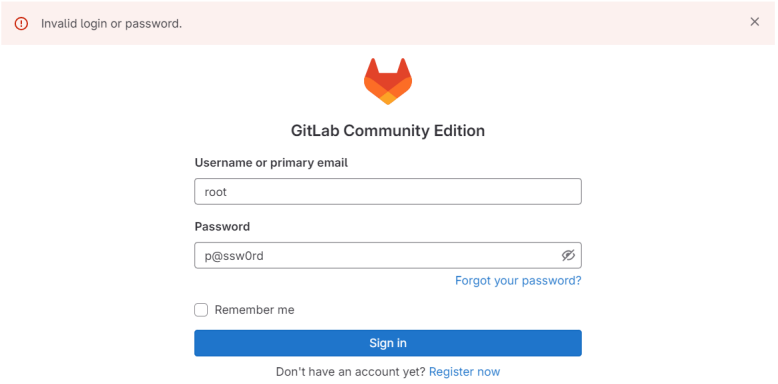
- docker-compose.yaml

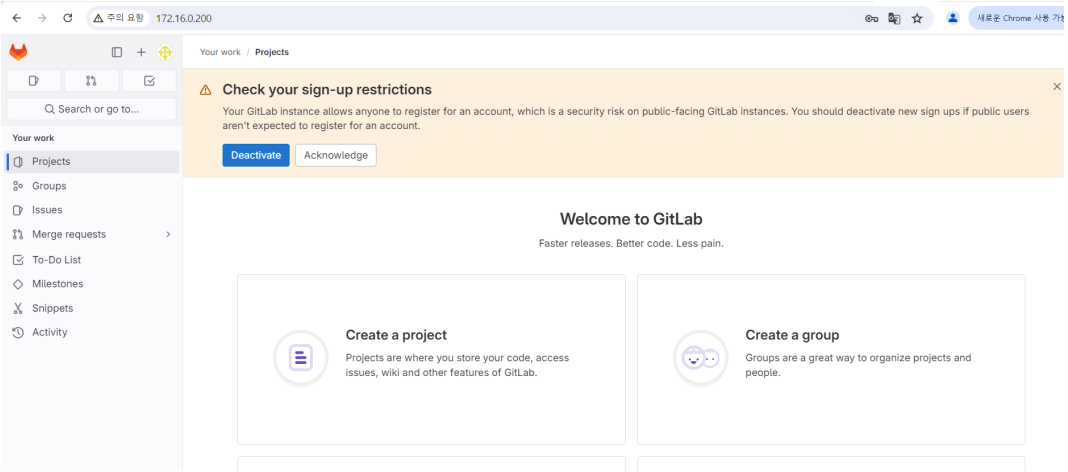
```
services:
  gitlab:
    image: 'quay.io/uvelyster/gitlab-ce:latest'
    restart: always
    hostname: 'mygitlab.com'
    container_name: gitlab
    dns: 172.16.0.200
    environment:
      GITLAB_ROOT_PASSWORD: P@ssw0rd
      GITLAB_OMNIBUS_CONFIG: |
        external_url 'http://mygitlab.com'
        registry_external_url 'https://myregistry.com'
    ports:
      - '80:80'
      - '443:443'
    volumes:
```

```
    - '/root/gitlab/config:/etc/gitlab'
    - '/auth:/etc/gitlab/ssl'
    - '/root/gitlab/logs:/var/log/gitlab'
    - '/root/gitlab/data:/var/opt/gitlab'
    - '/root/gitlab/backup:/var/opt/gitlab/backups'
    - '/root/gitlab/registry:/var/opt/gitlab/gitlab-rails/shared/registry'
```

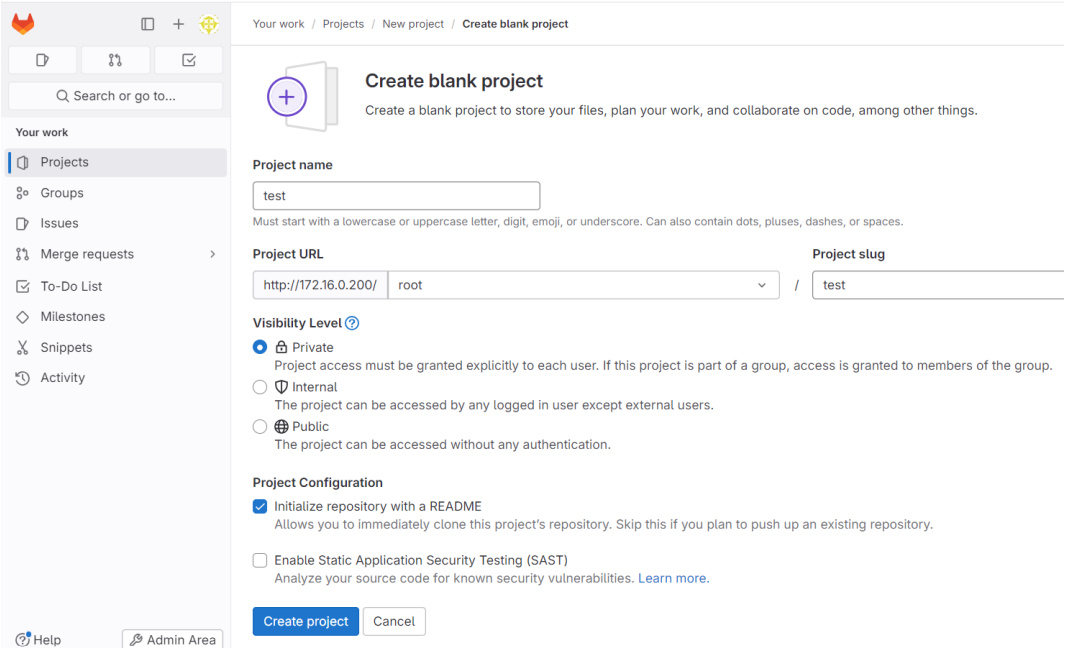
docker compose up -d로 컨테이너 올린다.







- 프로젝트 생성



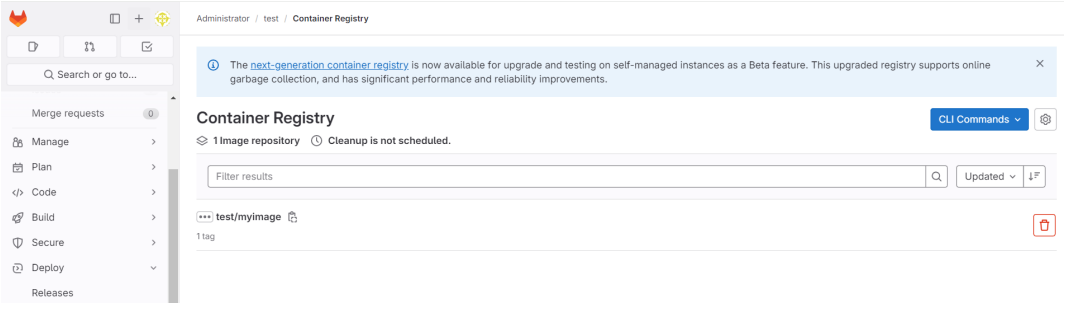
- build 후 올리기

```
docker build -t myregistry.com/riit/test/myimage

docker login myregistry.com
```

```
[root@controller nodejs]# docker login myregistry.com
Username: root
Password:
WARNING! Your password will be stored unencrypted in /root/.docker/config.json.
Configure a credential helper to remove this warning. See
https://docs.docker.com/engine/reference/commandline/login/#credentials-store

Login Succeeded
```

레지스트리에 올라가기까지의 과정이 ci이다.

```
[root@controller nodejs]# docker push myregistry.com/root/test/myimage
Using default tag: latest
The push refers to repository [myregistry.com/root/test/myimage]
5f70bf18a086: Pushed
292c82b01064: Pushed
7b15117eceec: Pushed
e4cfd543eb2d: Pushed
latest: digest: sha256:996caffc0bcc5f7dabe1e47cddb554e8bdf20f31ff584a89bf252a1956d9e1d1 size: 1157
```



젠킨스

- run_jenkins.sh

```
#!/bin/bash

docker rm -f jenkins

docker run -d --name jenkins \
--restart always \
--dns 172.16.0.200 \
-p 8080:8080 \
-p 50000:50000 \
-v jenkins_home:/var/jenkins_home \
-v /var/run/docker.sock:/var/run/docker.sock \
quay.io/uvelyster/jenkins
#jenkins/jenkins:lts
```

```
# Install Plugin
# docker cp plugins.txt jenkins:/var/jenkins_home/
# docker exec jenkins jenkins-plugin-cli -f /var/jenkins_home/plugins.txt

# Add Group and docker binary
# docker exec -u 0 jenkins groupadd -g 991 docker
# docker exec -u 0 jenkins usermod -aG 991 jenkins
# docker cp /usr/bin/docker jenkins:/usr/bin/docker

# docker restart jenkins
```

- docker logs jenkins

비밀번호 확인 후 로그인

```
*************************************************************
*************************************************************
*************************************************************

Jenkins initial setup is required. An admin user has been created and a password generated.
Please use the following password to proceed to installation:

ddc59203285b4a2fb9d9a12cecc5b875

This may also be found at: /var/jenkins_home/secrets/initialAdminPassword

*************************************************************
*************************************************************
*************************************************************
```

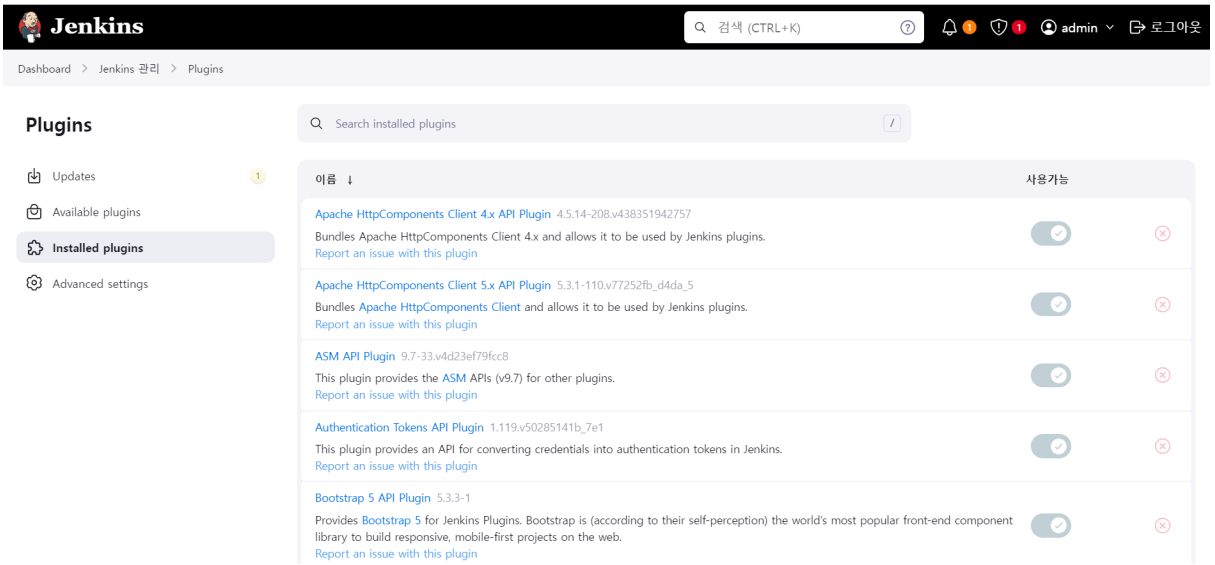
- plugins.txt

```
git:latest
gitlab-branch-source:latest
github-branch-source:latest
workflow-multibranch:latest
build-timeout:latest
credentials-binding:latest
antisamy-markup-formatter:latest
cloudbees-folder:latest
timestamper:latest
ws-cleanup:latest
gradle:latest
junit:latest
workflow-aggregator:latest
pipeline-graph-view:latest
email-ext:latest
kubernetes-cli:latest
docker-plugin:latest
```

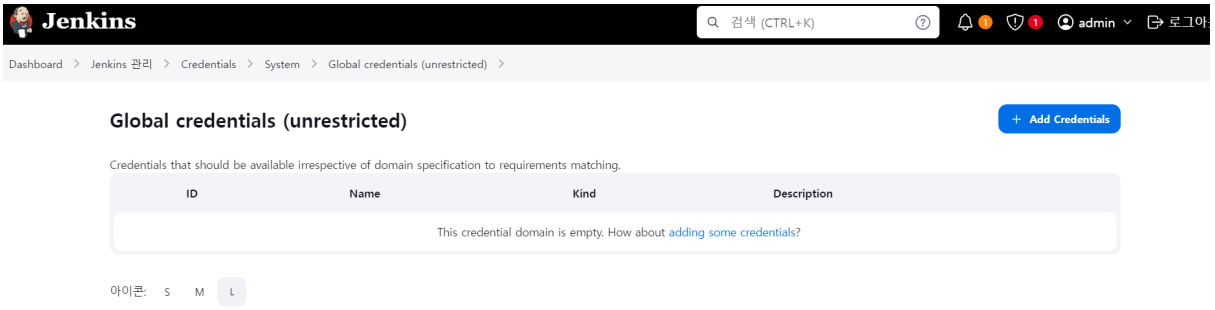
```
docker-workflow:latest
nodejs:latest
sonar:latest
```

- 플러그인 다운로드

```
docker cp plugins.txt jenkins:/var/jenkins_home/
docker exec jenkins jenkins-plugin-cli -f /var/jenkins_home/plugins.txt
```

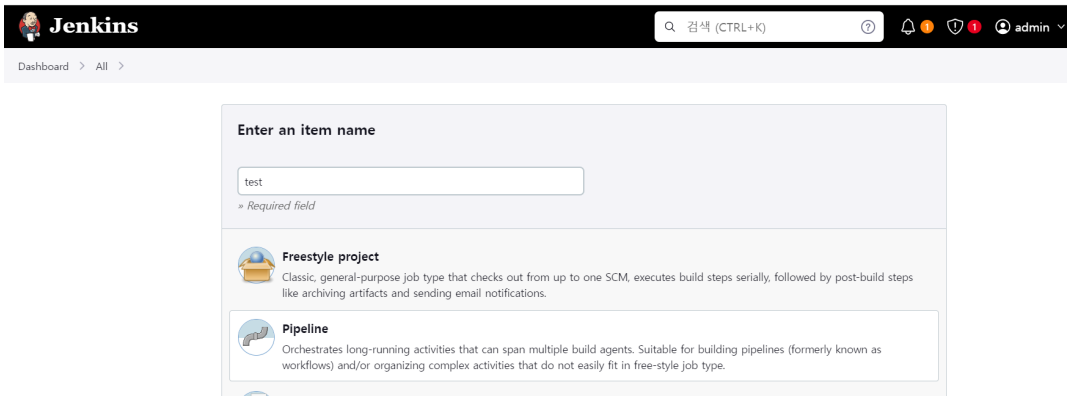


- jenkins credential



크리덴셜을 통해 깃 접근 가능

- jenkins 파이프라인 생성



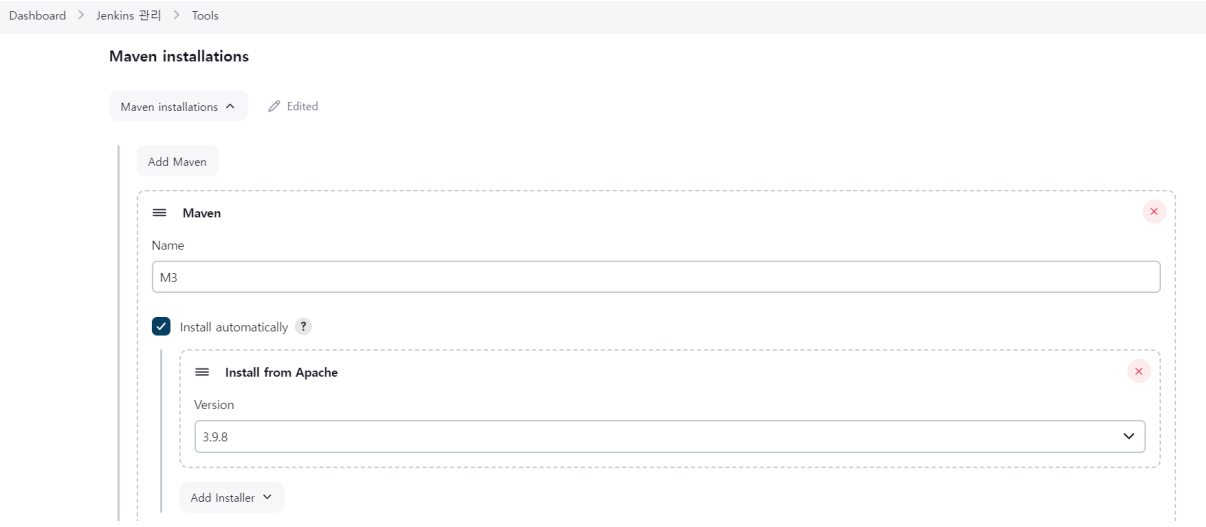
jenkins script는 dsl(domain specific language) 중 에서 groovy를 사용한다.

- 스크립트 추가

```
pipeline {
    agent any

    tools {
        // Install the Maven version configured as "M3" and add it to the path.
        maven "M3"
    }

    stages {
        stage('Build') {
            steps {
                // Get some code from a GitHub repository
                git 'https://github.com/jglick/simple-maven-project-with-tests.git

                // Run Maven on a Unix agent.
                sh "mvn -Dmaven.test.failure.ignore=true clean package"

                // To run Maven on a Windows agent, use
                // bat "mvn -Dmaven.test.failure.ignore=true clean package"
            }

            post {
                // If Maven was able to run the tests, even if some of the test
                // failed, record the test results and archive the jar file.
                success {
                    junit '**/target/surefire-reports/TEST-*.xml'
                    archiveArtifacts 'target/*.jar'
                }
            }
        }
```

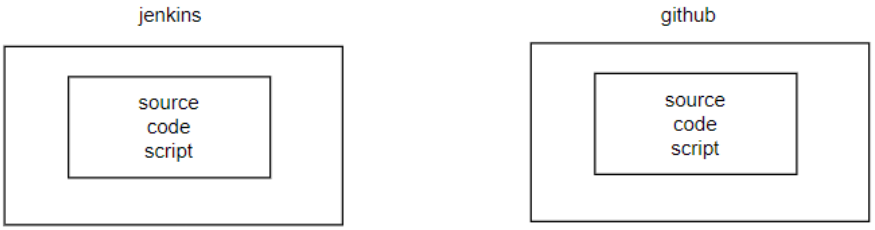
```
    }
}
```

- 도구 추가

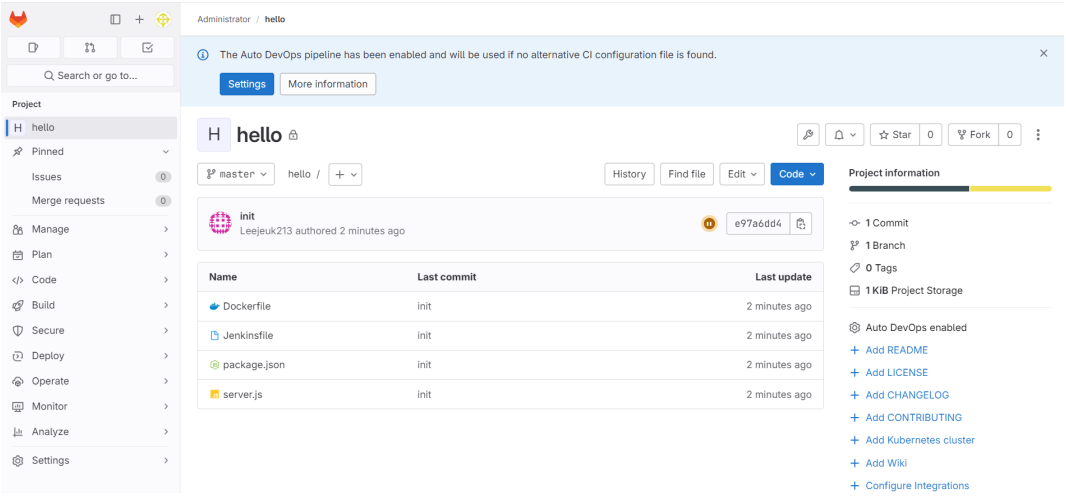


이름을 script와 동일하게 매핑

- 빌드 진행




```
943  cp -r nodejs/ /root/
944  cp 04_harbor/Jenkinsfile /root/nodejs/
945  cd /root/nodejs/
946  git status
947  git init
948  git remote add origin http://mygitlab.com/root/hello.git
949  git remote -v
950  git status
951  git add .
952  git commit -m "init"
953  git push -u origin master
```



💡 깃허브와 달리 깃랩은 레포지토리 안만들고 push 날려도 만들어진다.

- docker-pipeline
- docker tools 구성 도커 바이너리 복사
- script - Jenkinsfile

harbor

- 로그인

admin / Harbor12345

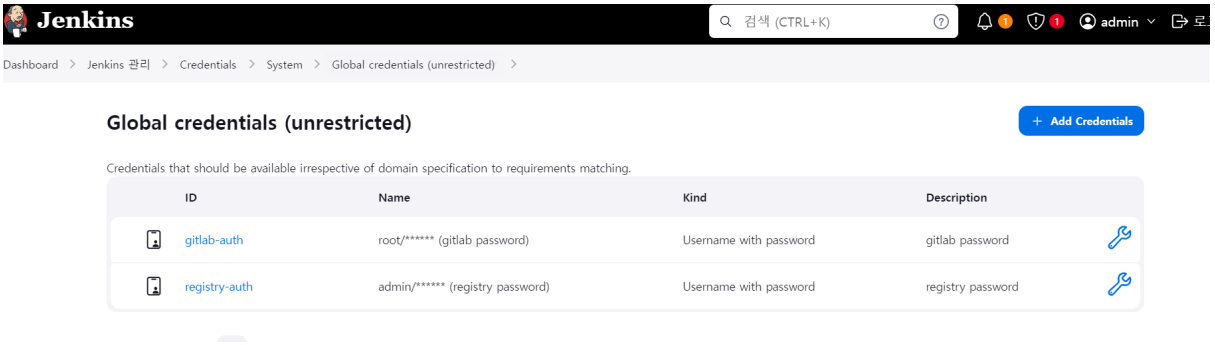
- jenkins credential

registry-auth

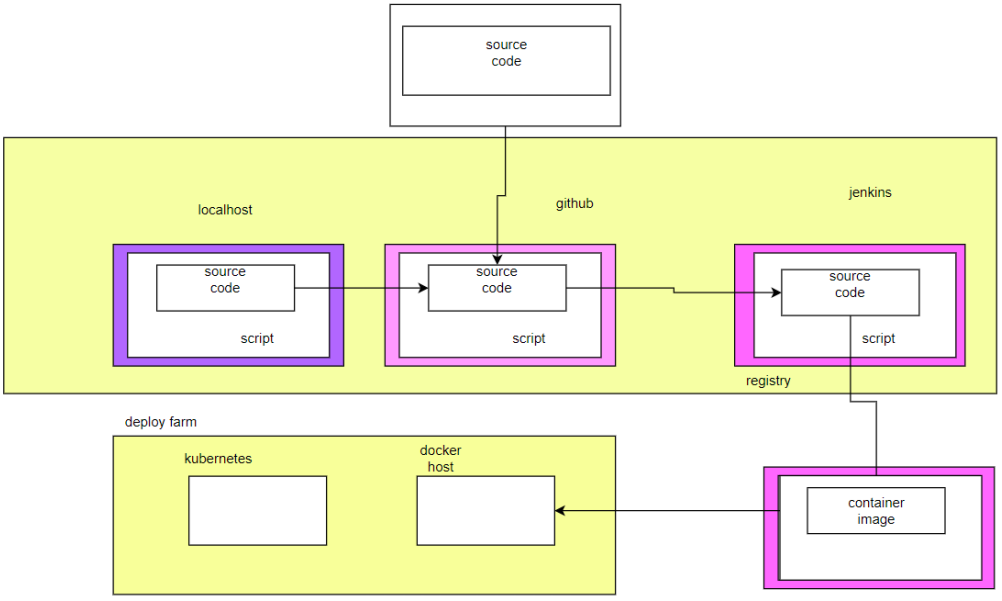
admin / Harbor 12345

gitlab

admin / P@ssw0rd



- 최종구조


source
code
localhost
github
jenkins
source
code
script
source
code
script
source
code
script
registry
deploy farm
kubernetes
docker
host
container
image