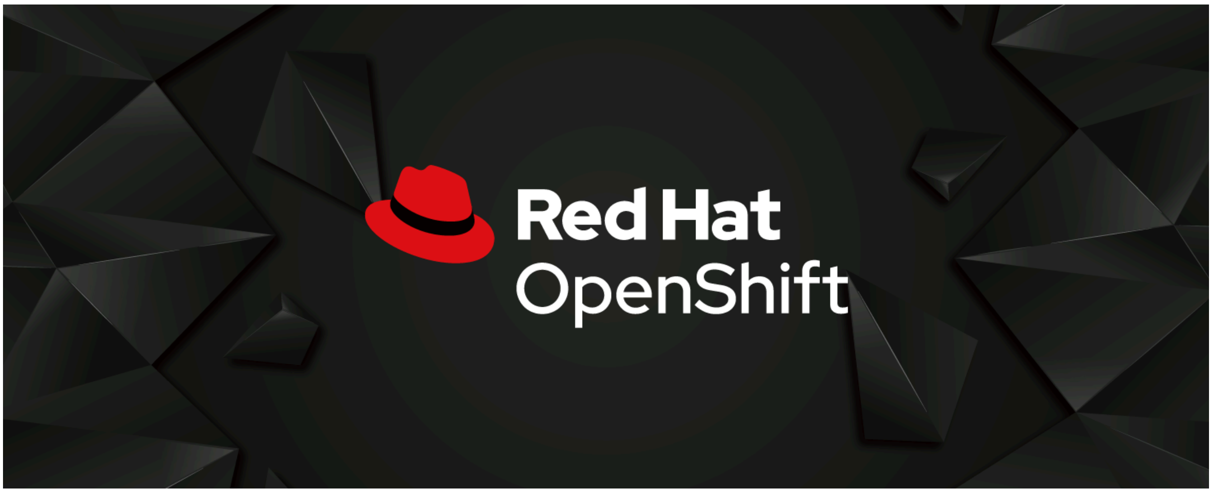
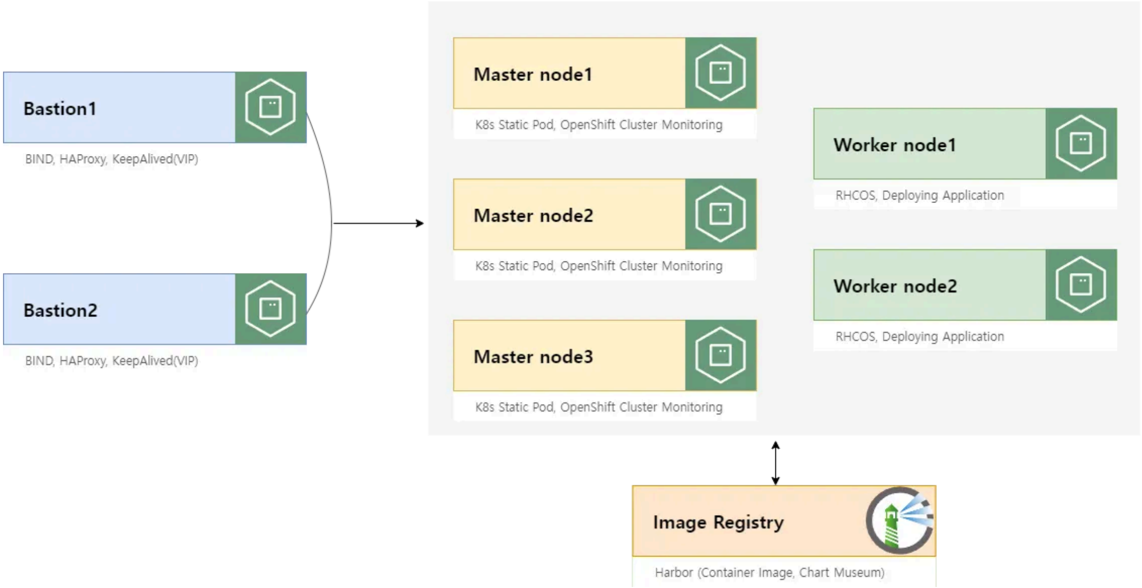


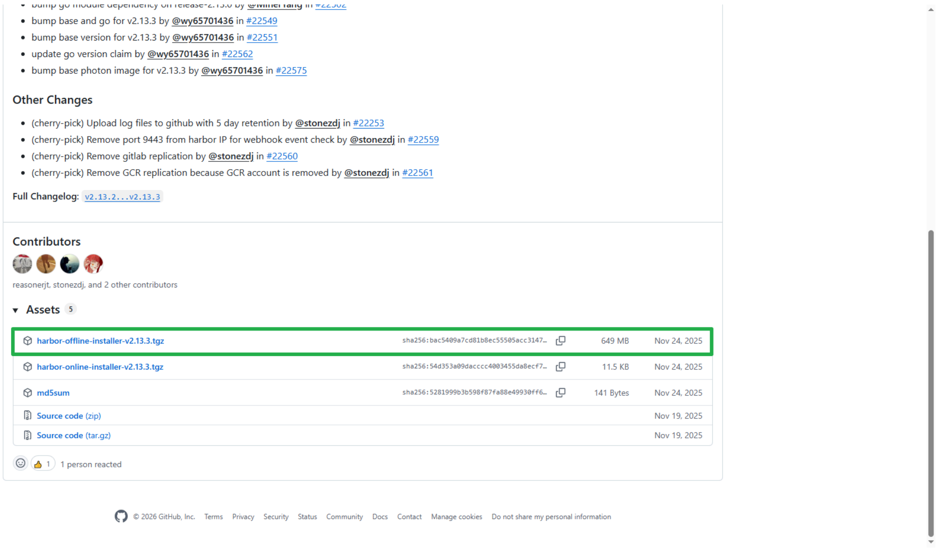
2. Harbor Registry 구축 (Private Image Registry)

> **References**
>
> - https://docs.docker.com/engine/install/rhel/
> - **https://github.com/goharbor/harbor/releases/tag/v2.13.3 (Harbor 다운로드)**


Bastion1
BIND, HAProxy, KeepAlived(VIP)
Bastion2
BIND, HAProxy, KeepAlived(VIP)
Master node1
K8s Static Pod, OpenShift Cluster Monitoring
Master node2
K8s Static Pod, OpenShift Cluster Monitoring
Master node3
K8s Static Pod, OpenShift Cluster Monitoring
Worker node1
RHCOS, Deploying Application
Worker node2
RHCOS, Deploying Application
Image Registry
Harbor (Container Image, Chart Museum)

※ Harbor Registry 란 (Image Registry)

- 폐쇄망 환경에서 Private Registry, OCP 컨테이너 이미지 저장소 역할
- Docker 를 사용하여 구성



- bump go module dependency on release-2.13.0 by @MinerYang in #22502
- bump base and go for v2.13.3 by @wy65701436 in #22549
- bump base version for v2.13.3 by @wy65701436 in #22551
- update go version claim by @wy65701436 in #22562
- bump base photon image for v2.13.3 by @wy65701436 in #22575

Other Changes

- (cherry-pick) Upload log files to github with 5 day retention by @stonezdj in #22253
- (cherry-pick) Remove port 9443 from harbor IP for webhook event check by @stonezdj in #22559
- (cherry-pick) Remove gitlab replication by @stonezdj in #22560
- (cherry-pick) Remove GCR replication because GCR account is removed by @stonezdj in #22561

Full Changelog: `v2.13.2...v2.13.3`

Contributors

reasonerjt, stonezdj, and 2 other contributors

▾ Assets 5

harbor-offline-installer-v2.13.3.tgz	sha256:bac5409a7cd81b8ec55505acc3147…	649 MB	Nov 24, 2025
harbor-online-installer-v2.13.3.tgz	sha256:54d353a09dacccc4003455da8ecf7…	11.5 KB	Nov 24, 2025
md5sum	sha256:5281999b3b598f87fa88e49930ff6…	141 Bytes	Nov 24, 2025
Source code (zip)			Nov 19, 2025
Source code (tar.gz)			Nov 19, 2025

👍 1 1 person reacted

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위 Harbor 파일 (Installer) 다운로드 후 VM 업로드

※ 설치 및 구성 커맨드

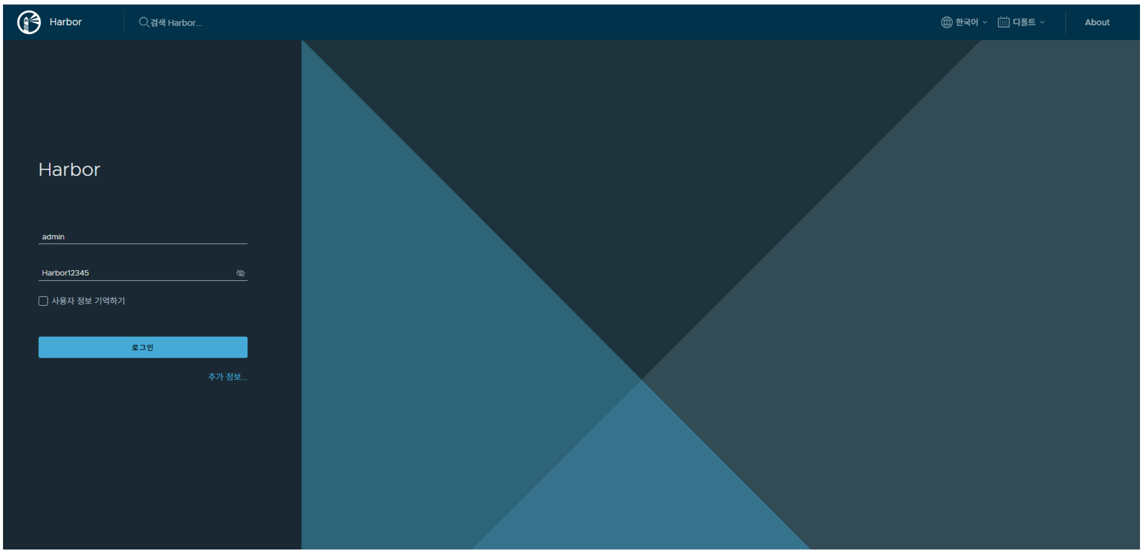
```
### Root 계정으로 진행
## 방화벽 해제
systemctl stop firewalld && systemctl disable firewalld



## Docker CE 설치 및 구성
sudo dnf remove docker \
            docker-client \
            docker-client-latest \
            docker-common \
            docker-latest \
            docker-latest-logrotate \
            docker-logrotate \
            docker-engine \
            podman \
            runc

sudo dnf -y install dnf-plugins-core
sudo dnf config-manager --add-repo https://download.docker.com/linux/rhel/docker-ce.repo

## Latest 버전 설치
```

```
sudo dnf install docker-ce docker-ce-cli containerd.io \
                                    docker-buildx-plugin docker-compose-plugin

sudo systemctl enable --now docker
sudo systemctl status docker


### 다운로드 받은 harbor tgz 파일 압축 해제
tar -xzvf harbor-offline-installer-v2.13.3.tgz

cd harbor
ls -al
합계 669348
-rw-r--r--. 1 root root     11347 11월 19 17:12 LICENSE
-rw-r--r--. 1 root root      3646 11월 19 17:12 common.sh
-rw-r--r--. 1 root root 685367473 11월 19 17:12 harbor.v2.13.3.tar.gz
-rw-r--r--. 1 root root     14688 11월 19 17:12 harbor.yml.tmpl
-rwxr-xr-x. 1 root root      1975 11월 19 17:12 install.sh
-rwxr-xr-x. 1 root root      2211 11월 19 17:12 prepare

## harbor.yml.tmpl 파일을 사용하여 harbor config 파일 생성 (harbor.yml)

vi harbor.yml

hostname: harbor.example.com

http:
  port: 80

https:
  port: 443
  certificate: /data/cert/harbor.example.com.crt
  private_key: /data/cert/harbor.example.com.key

harbor_admin_password: Harbor12345

database:
  password: root123
  max_idle_conns: 100
  max_open_conns: 900
  conn_max_lifetime: 5m
  conn_max_idle_time: 0

data_volume: /root/harbor

trivy:
  ignore_unfixed: false
  skip_update: false
  offline_scan: false
  security_check: vuln
  insecure: false

jobservice:
  max_job_workers: 10
  logger_sweeper_duration: 1
  job_loggers:
    - name: stdout
      level: info
    - name: file
      level: info
      file: /var/log/jobs/jobservice.log

notification:
  webhook_job_max_retry: 10
  webhook_job_http_client_timeout: 3

chart:
  absolute_url: disabled

log:
  level: info
  local:
    rotate_count: 50
    rotate_size: 200M
    location: /var/log/harbor
  job_loggers:
    - stdout
    - file

_version: 2.7.0

proxy:
  http_proxy:
  https_proxy:
  no_proxy:
  components:
    - core
    - jobservice
    - trivy

upload_purging:
  enabled: true
  age: 168h
  interval: 24h
  dryrun: false
```

```
cache:
  enabled: false
  expire_hours: 24


### Harbor 에서 사용할 인증서 파일 생성
## 위 config 파일내 해당 파일들을 설정 해야 함.
#  certificate: /data/cert/harbor.example.com.crt
#  private_key: /data/cert/harbor.example.com.key


sudo mkdir /data
sudo mkdir /data/cert
cd /data/cert

## OpenSSL 을 사용한 인증서 생성
# [참고] https://goharbor.io/docs/1.10/install-config/configure-https/

openssl genrsa -out ca.key 4096
openssl req -x509 -new -nodes -sha512 -days 3650 \
 -subj "/C=CN/ST=Beijing/L=Beijing/O=example/OU=Personal/CN=harbor.example.com" \
 -key ca.key \
 -out ca.crt

openssl genrsa -out harbor.example.com.key 4096
openssl req -sha512 -new \
    -subj "/C=CN/ST=Beijing/L=Beijing/O=example/OU=Personal/CN=harbor.example.com" \
    -key harbor.example.com.key \
    -out harbor.example.com.csr

cat > v3.ext <<-EOF
authorityKeyIdentifier=keyid,issuer
basicConstraints=CA:FALSE
keyUsage = digitalSignature, nonRepudiation, keyEncipherment, dataEncipherment
extendedKeyUsage = serverAuth
subjectAltName = @alt_names
[alt_names]
DNS.1=harbor.example.com
DNS.2=harbor
EOF

openssl x509 -req -sha512 -days 3650 \
    -extfile v3.ext \
    -CA ca.crt -CAkey ca.key -CAcreateserial \
    -in harbor.example.com.csr \
    -out harbor.example.com.crt

openssl x509 -inform PEM -in harbor.example.com.crt -out harbor.example.com.cert
```

```
mkdir -p /etc/docker/certs.d/harbor.example.com
cp harbor.example.com.cert /etc/docker/certs.d/harbor.example.com/
cp harbor.example.com.key /etc/docker/certs.d/harbor.example.com/
cp ca.crt /etc/docker/certs.d/harbor.example.com/

## Harbor Prepare & Start

cd ~/harbor/
./prepare
./install.sh


...
[Step 5]: starting Harbor ...
WARN[0000] No services to build
[+] up 10/10
 ✔ Network harbor_harbor       Created
 ✔ Container harbor-log        Created
 ✔ Container harbor-portal     Created
 ✔ Container harbor-db         Created
 ✔ Container registry          Created
 ✔ Container redis             Created
 ✔ Container registryctl       Created
 ✔ Container harbor-core       Created
 ✔ Container harbor-jobservice Created
 ✔ Container nginx             Created
✔ ----Harbor has been installed and started successfully.----

## Harbor 재 기동 커맨드
cd ~/harbor/
docker compose down -v
docker compose up -d

## 상태 확인
docker compose -f ~/harbor/docker-compose.yml ps
docker ps -al
```

※ 브라우저 접속 테스트

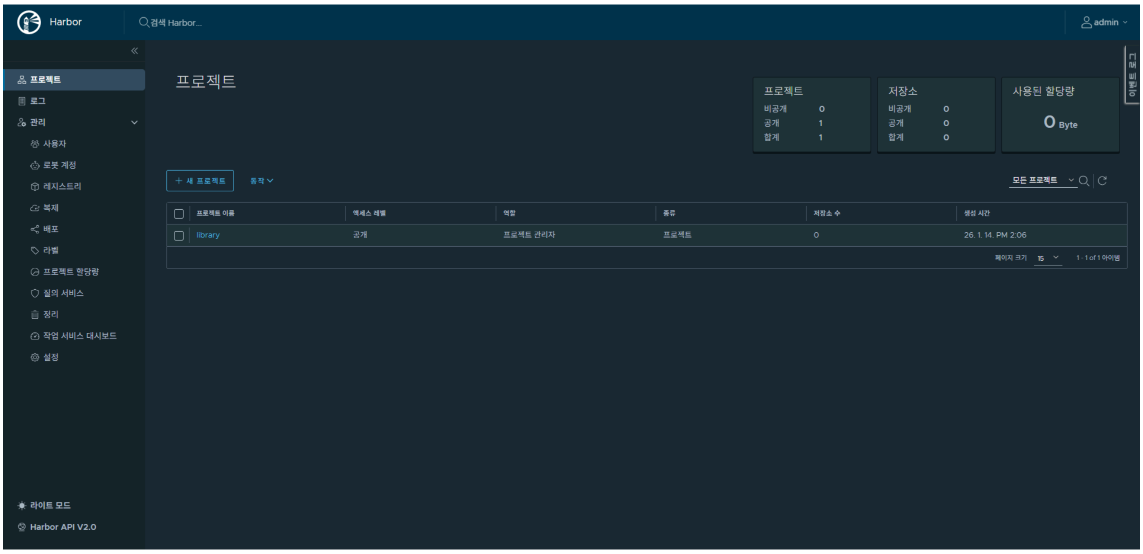


admin

Harbor12345

□ 사용자 정보 기억하기

config 파일(harbor.yml)에 설정한 admin 계정 정보 이용 (password : Harbor12345)



프로젝트

프로젝트	
비공개	0
공개	1
합계	1

저장소	
비공개	0
공개	0
합계	0

사용된 할당량

0 Byte

프로젝트 이름	액세스 레벨	역할	종류	저장소 수	생성 시간
library	공개	프로젝트 관리자	프로젝트	0	26. 1. 14. PM 2:06

페이지 크기 15 1 - 1 of 1 아이템