How to Embed Dependency-Check into GitLab CI/CD

Throughout this content, you will learn how to integrate a Dependency Check tool into GitLab, enabling the job to fail even when multiple issues are detected by the tool.

A simple CI/CD pipeline:

Let’s download the code using git clone in your machine. I prefer unix/linux

Once done, we need to push our source code into GitLab. Let’s download the code using git clone in DevSecOps Box.

git clone https://github.com/WebGoat/WebGoat.git
cd webgoat

=> Rename git url to the new one.

git remote rename origin old-origin
git remote add origin https://gitlab.com/tanmoy.xxx.xxx/WebGoat.git

=> Then, push the code into the repository.

git push -u origin --all

Username Your Username
Password Your Password

Let’s log into Gitlab using your accounts details

Name	Value
Gitlab URL	**https://gitlab.com/tanmoy.xxx.xxx/WebGoat.git**
Username	You
Password	Yours’

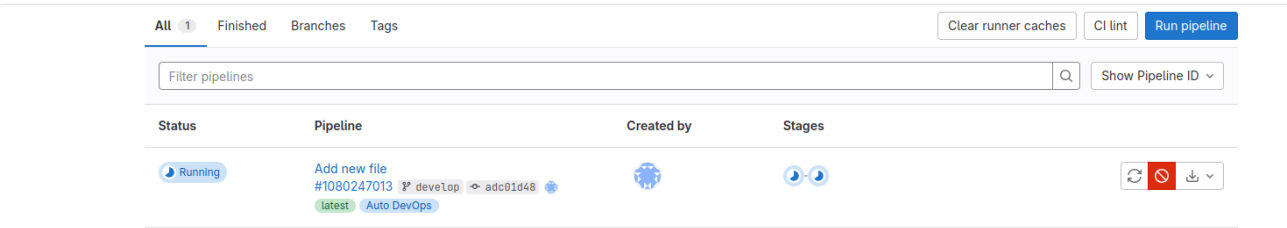
Next, we need to create a CI/CD pipeline by adding the **.gitlab-ci.yml file.** Click on the + (plus) button, then click New File and copy the above CI script (use Control+A and Control+V).

```
image: docker:20.10  # To run all jobs in this pipeline, use a latest docker image

services:
  - docker:dind       # To run all jobs in this pipeline, use a docker image which contains a docker daemon running inside (dind - docker in docker). Reference: https://forum.gitlab.com/t/why-services-docker-dind-is-needed-while-already-having-image-docker/43534

stages:
  - build
  - test
  - release
  - preprod
  - integration
  - prod

build:
  stage: build
  script:
    - echo "This is a build step"

test:
  stage: test
  script:
    - echo "This is a test step"
```

Save changes to the file using the Commit changes button.

As soon as a change is made to our repository, the pipeline starts to execute the defined jobs.

Check out the results of this pipeline by visiting https://link/path/webgoat/pipelines and click on the appropriate job name under the pipeline to see the job output.



As discussed in the **Software Component Analysis using Dependency Check** discussion, we can put Dependency Check in our CI/CD pipeline. However, do remember you need to run the command manually before you embed OAST in the pipeline.

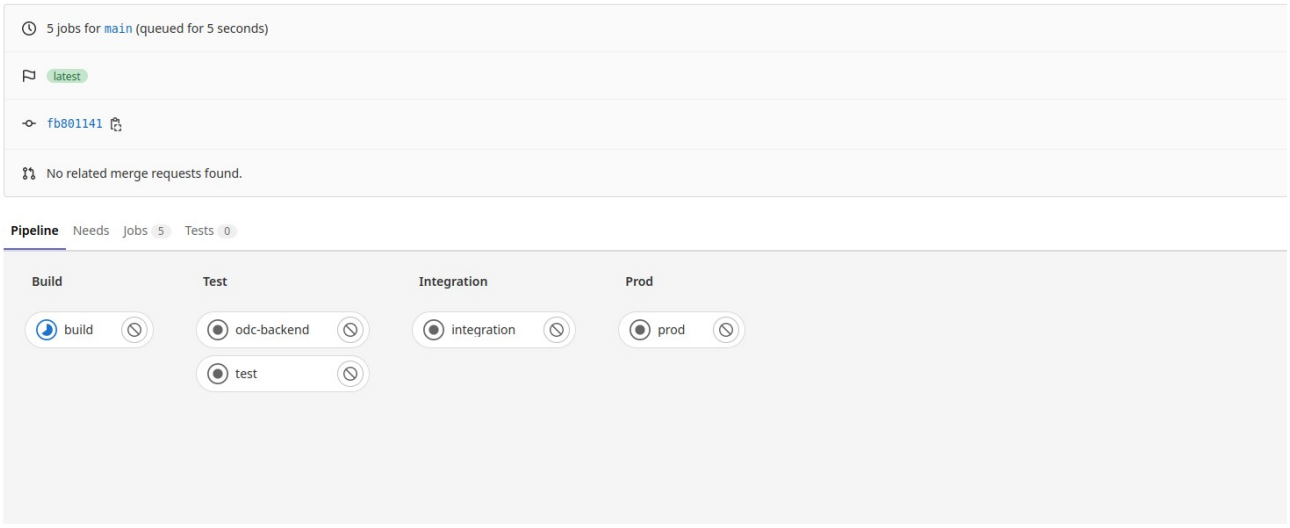
Visit your webgoat link https://webgoat.gitlab.com/root/webgoat to create a new file called `run-depcheck.sh` with the following contents.

```
#!/bin/sh

DATA_DIRECTORY="$PWD/data"
REPORT_DIRECTORY="$PWD/reports"

if [ ! -d "$DATA_DIRECTORY" ]; then
  echo "Initially creating persistent directories"
  mkdir -p "$DATA_DIRECTORY"
  chmod -R 777 "$DATA_DIRECTORY"

  mkdir -p "$REPORT_DIRECTORY"
  chmod -R 777 "$REPORT_DIRECTORY"
fi

# mvn install -Dmaven.test.skip=true
docker run --rm \
  --volume $(pwd):/src \
  --volume "$DATA_DIRECTORY":/usr/share/dependency-check/data \
  --volume "$REPORT_DIRECTORY":/report \
  owasp/dependency-check \
  --scan /src \
  --format "CSV" \
  --project "Webgoat" \
  --failOnCVSS 4 \
  --out /report
```

Then, add the following content to the **.gitlab-ci.yml** file.

```
image: docker:20.10  # To run all jobs in this pipeline, use a latest docker image

services:
  - docker:dind       # To run all jobs in this pipeline, use a docker image which contains a docker daemon running inside (dind - docker in docker). Reference: https://forum.gitlab.com/t/why-services-docker-dind-is-needed-while-already-having-image-docker/43534

stages:
  - build
  - test
  - release
  - preprod
  - integration
  - prod
```

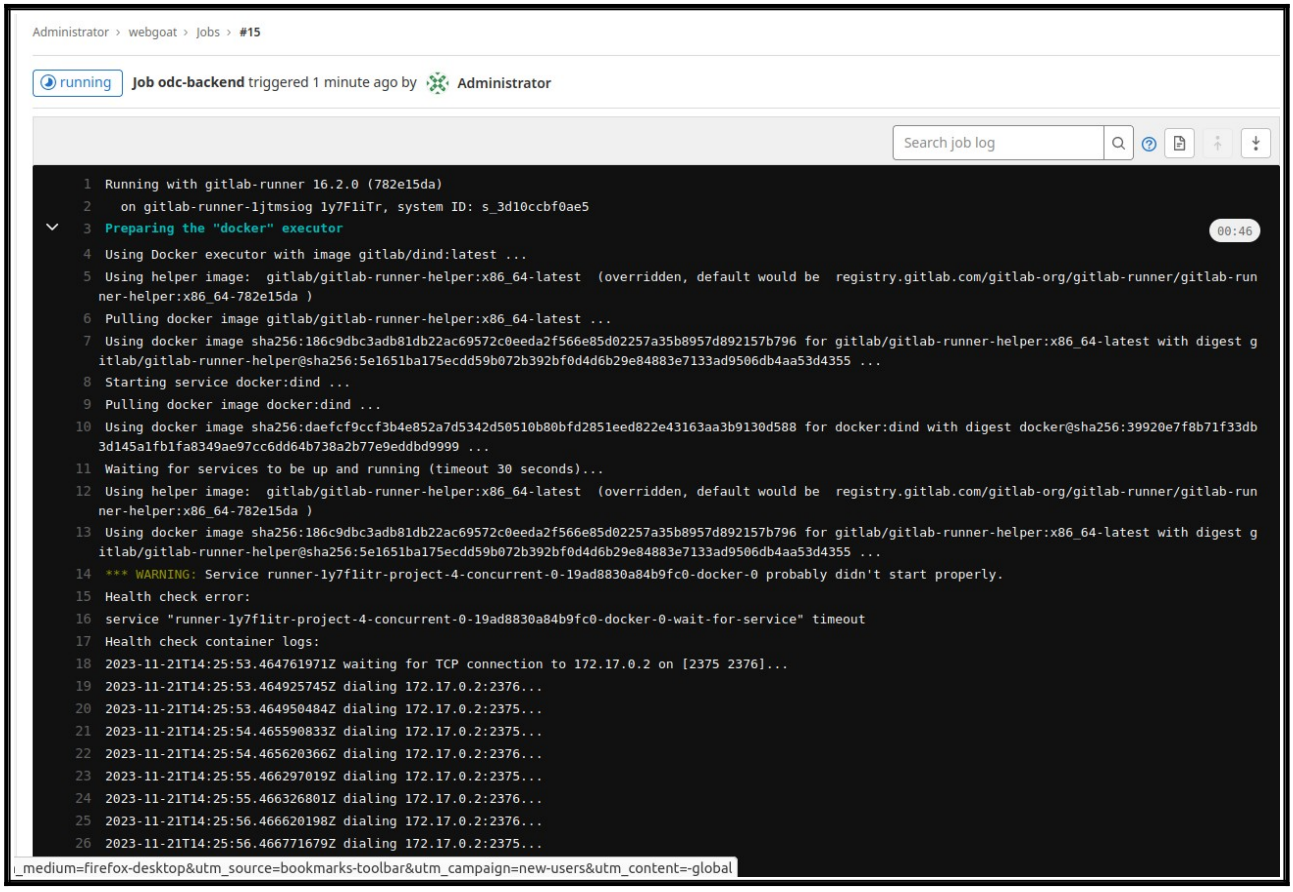
```
build:
  stage: build
  script:
    - echo "This is a build step"

test:
  stage: test
  script:
    - echo "This is a test step"

odc-backend:
  stage: test
  image: gitlab/dind:latest
  script:
    - chmod +x ./run-depcheck.sh
    - ./run-depcheck.sh
  artifacts:
    paths:
      - reports/dependency-check-report.csv
    when: always
    expire_in: one week

integration:
  stage: integration
  script:
    - echo "This is an integration step"
    - exit 1
  allow_failure: true # Even if the job fails, continue to the next stages

prod:
  stage: prod
  script:

    - echo "This is a deploy step."
  when: manual # Continuous Delivery
```



As discussed, any change to the repo kick starts the pipeline.

We can see the results of this pipeline by visiting https://webgoat.gitlab.com/root/webgoat/pipelines.

Click on the appropriate job name to see the output.



Thanks by Blackkhawkk