

Домашна 4 – Jenkins

Part 1:

1. docker-compose --version

```
marko@Marko-PC MINGW64 /d/Projects/Jenkins
$ docker-compose --version
Docker Compose version v2.33.1-desktop.1
```

2. nano docker-compose.yml

```
GNU nano 8.3 docker-compose.yml
version: '3.1'
services:
  docker:
    image: docker:dind
    privileged: true
    environment:
      - DOCKER_TLS_CERTDIR=/certs
    volumes:
      - ./jenkins-docker-certs:/certs/client
      - ./jenkins-data:/var/jenkins_home
  jenkins-blueocean:
    build: .
    environment:
      - DOCKER_HOST=tcp://docker:2376
      - DOCKER_CERT_PATH=/certs/client
      - DOCKER_TLS_VERIFY=0
    ports:
      - 8080:8080
      - 50000:50000
    volumes:
      - ./jenkins-data:/var/jenkins_home
      - ./jenkins-docker-certs:/certs/client:ro
networks:
  jenkins:
    name: jenkins
    driver: bridge
```

3. nano Dockerfile

```
GNU nano 8.3 Dockerfile Modified
FROM jenkins/jenkins:2.440.2-jdk17
USER root
RUN apt-get update && apt-get install -y lsb-release
RUN curl -fsSLo /usr/share/keyrings/docker-archive-keyring.asc \
  https://download.docker.com/linux/debian/gpg
RUN echo "deb [arch=$(dpkg --print-architecture) \
  signed-by=/usr/share/keyrings/docker-archive-keyring.asc] \
  https://download.docker.com/linux/debian \
  $(lsb_release -cs) stable" > /etc/apt/sources.list.d/docker.list
RUN apt-get update && apt-get install -y docker-ce-cli
USER jenkins
RUN jenkins-plugin-cli --plugins "blueocean docker-workflow"
```

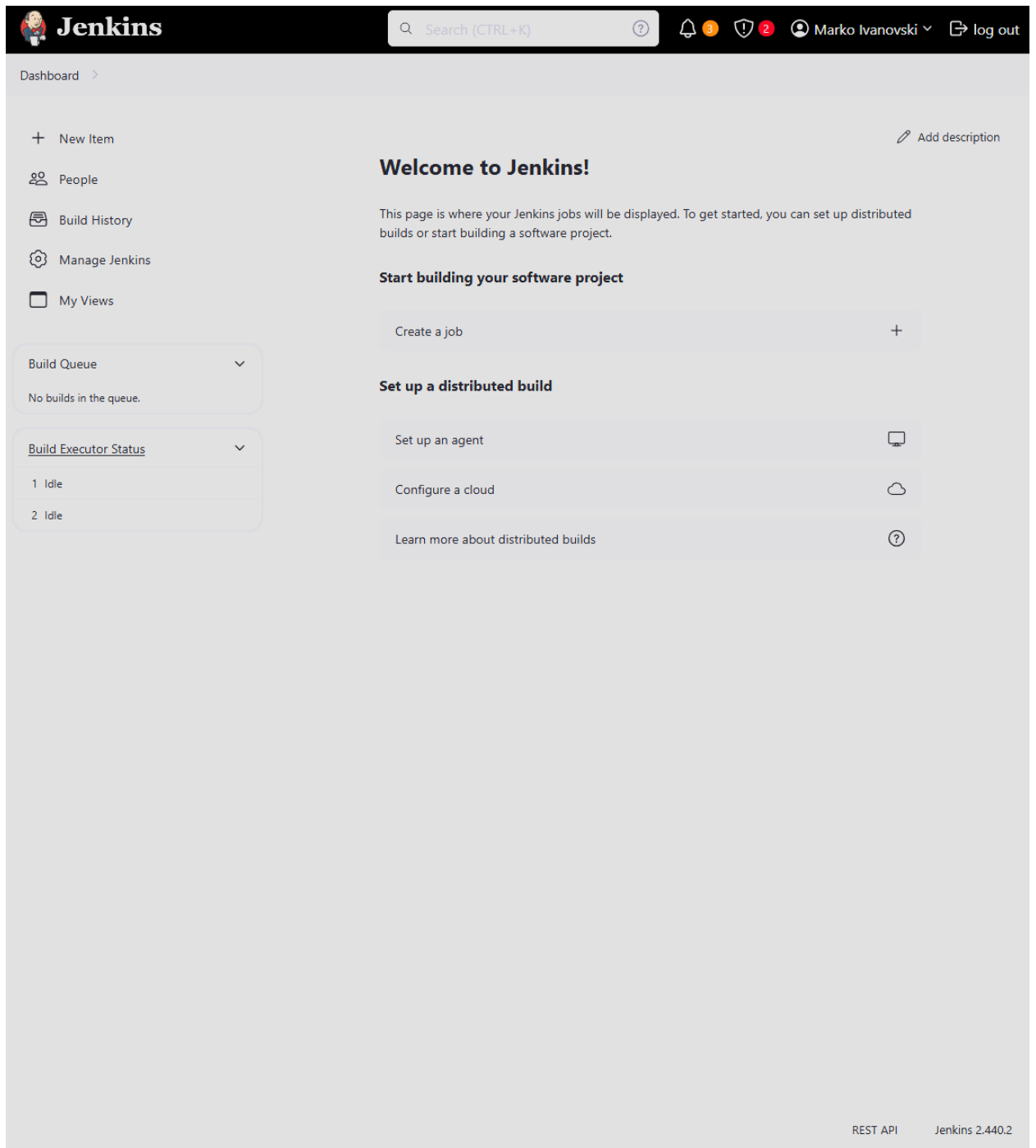
4. docker-compose up -d

```

$ docker compose up -d
time="2025-04-13T02:09:38+02:00" level=warning msg="D:\\Projects\\Jenkins\\docker-compose.yml: the attribute `version` is
obsolete, it will be ignored, please remove it to avoid potential confusion"
[+] Running 17/17
  ✓ docker Pulled
  ✓ 4dfbaa8510b4 Pull complete
  ✓ a42a0bc42a48 Pull complete
  ✓ f18232174bc9 Pull complete
  ✓ cc577e801c9b Pull complete
  ✓ 56cd23755334 Pull complete
  ✓ 4b17c6a5a7a3 Pull complete
  ✓ 5138e6e2c821 Pull complete
  ✓ f4964c8f3f5e Pull complete
  ✓ cc8eee1d6b74 Pull complete
  ✓ 57686a87e506 Pull complete
  ✓ 97a4c88b1330 Pull complete
  ✓ 1831b367f0bd Pull complete
  ✓ 1260a011c870 Pull complete
  ✓ 4f4fb70ef54 Pull complete
  ✓ 9f40a9188753 Pull complete
  ✓ 0aad24c52542 Pull complete
Compose now can delegate build to bake for better performances
Just set COMPOSE_BAKE=true
[+] Building 71.7s (12/12) FINISHED
=> [jenkins-blueocean internal] load build definition from Dockerfile
=> => transferring dockerfile: 603B
=> [jenkins-blueocean internal] load metadata for docker.io/jenkins/jenkins:2.440.2-jdk17
=> [jenkins-blueocean auth] jenkins/jenkins:pull token for registry-1.docker.io
=> [jenkins-blueocean internal] load .dockerignore
=> => transferring context: 2B
=> [jenkins-blueocean 1/6] FROM docker.io/jenkins/jenkins:2.440.2-jdk17@sha256:2edc8c5eb4dbe901233ec4fada466744850 18.4
=> => resolve docker.io/jenkins/jenkins:2.440.2-jdk17@sha256:2edc8c5eb4dbe901233ec4fada4667448509576b7ba1324f856a40 0.3
=> => sha256:6eb1c1c71ae48b9925c8be7605e02bea916215f348217fb2f4cc72abae04bf6e 393B / 393B
=> => sha256:ba2ac3875c91807ea4f162fd3ff7720be5f2d3668274d3299e8c5e225655c221 1.23kB / 1.23kB
=> => sha256:9d4c327a55ea835c8cec4a316dcb422bc62ab1d9af8e9da98334144943cc96ee 1.93kB / 1.93kB
=> => sha256:9767c22f3135ee1be001d19b8849eae149c3150eb7559b503502225f043fc6d 63.11MB / 63.11MB
=> => sha256:b60e1a9e0291a4064c27b4fd20afbb3352059545a3320bd07245ecdef3487e18 6.21MB / 6.21MB
=> => sha256:e356a7224b958e302be66dfbeab737da4b89f2ec46f28906d1a6f09449fe3c63 191B / 191B
=> => sha256:9489baaa02c6e6ded3660054596debeb2d0ba4b25f6affbf90099906f2ef4585 86.30MB / 86.30MB
=> => sha256:4e5c17f255a16cccf5727d76e4703e3da8ac37e2518f4d7e7495654e4cd8f4f4 185B / 185B
=> => sha256:39f28ec61129618f68583c13a69e1eb6047fa46beef353fc9465907d870f7911 1.23kB / 1.23kB
=> => sha256:58a2b91373da3f14c2d36da1473c5f7ce7470d5784f770dfa5b10811e019aaf5 8.85MB / 8.85MB
=> => sha256:31935640cc4399d7118bc5087d6dc645721a791f42508be1a9d45a132023620b 61.36MB / 61.36MB
=> => sha256:71215d55680cf0ab2dcc0e1dd65ed76414e3fb0c294249b5b9319a8fa7c398e4 49.55MB / 49.55MB
=> => extracting sha256:71215d55680cf0ab2dcc0e1dd65ed76414e3fb0c294249b5b9319a8fa7c398e4 2.4
=> => extracting sha256:31935640cc4399d7118bc5087d6dc645721a791f42508be1a9d45a132023620b 2.4
=> => extracting sha256:58a2b91373da3f14c2d36da1473c5f7ce7470d5784f770dfa5b10811e019aaf5 0.0
=> => extracting sha256:39f28ec61129618f68583c13a69e1eb6047fa46beef353fc9465907d870f7911 0.0
=> => extracting sha256:4e5c17f255a16cccf5727d76e4703e3da8ac37e2518f4d7e7495654e4cd8f4f4 0.0
=> => extracting sha256:9489baaa02c6e6ded3660054596debeb2d0ba4b25f6affbf90099906f2ef4585 0.0
=> => extracting sha256:e356a7224b958e302be66dfbeab737da4b89f2ec46f28906d1a6f09449fe3c63 0.0
=> => extracting sha256:b60e1a9e0291a4064c27b4fd20afbb3352059545a3320bd07245ecdef3487e18 0.0
=> => extracting sha256:9767c22f3135ee1be001d19b8849eae149c3150eb7559b503502225f043fc6d 1.4

```

5. ngrok is configured
6. Web interface on port 8080




Part 2:


1. Freestyle Project


Enter an item name


KIII-Homework-4


» Required field


**Freestyle project**
Classic, general-purpose job type that checks out from up to one SCM, executes build steps serially, followed by post-build steps like archiving artifacts and sending email notifications.

**Pipeline**
Orchestrates long-running activities that can span multiple build agents. Suitable for building pipelines (formerly known as workflows) and/or organizing complex activities that do not easily fit in free-style job type.

**Multi-configuration project**
Suitable for projects that need a large number of different configurations, such as testing on multiple environments, platform-specific builds, etc.

**Folder**
Creates a container that stores nested items in it. Useful for grouping things together. Unlike view, which is just a filter, a folder creates a separate namespace, so you can have multiple things of the same name as long as they are in different folders.

**Multibranch Pipeline**
Creates a set of Pipeline projects according to detected branches in one SCM repository.

**Organization Folder**
Creates a set of multibranch project subfolders by scanning for repositories.

OK

2. Jenkins Configuration

General

Enabled



Description

Homework 4 for subject ~~KII~~

Plain text [Preview](#)



Discard old builds [?](#)



GitHub project

Project url [?](#)

<https://github.com/Marko-Ivanovski/KIII-Homework-4>

Advanced [▼](#)

Source Code Management

☐ None

☒ Git ?

Repositories ?

Repository URL ?

Credentials ?

Branches to build ?

Branch Specifier (blank for 'any') ?

Repository browser ?

Additional Behaviours

Build Triggers

☐ Trigger builds remotely (e.g., from scripts) ?

☐ Build after other projects are built ?

☒ Build periodically ?

Schedule ?

⚠ Do you really mean "every minute" when you say "*****"? Perhaps you meant "H * * * *" to poll once per hour
 Would last have run at Sunday, April 13, 2025 at 12:49:31 AM Coordinated Universal Time; would next run at Sunday, April 13, 2025 at 12:49:31 AM Coordinated Universal Time.

☐ Build when a change is pushed to GitLab. GitLab webhook URL: <https://baf6-89-205-99-99.ngrok-free.app/project/KIII-Homework-4> ?

☐ GitHub hook trigger for GITScm polling ?

☐ Poll SCM ?

Build Steps

☰ **Execute shell** ? ✕

Command

See [the list of available environment variables](#)

```
ls -l
```

Part 3:

1. Dockerfile


```
GNU nano 8.3 Dockerfile Modified
FROM nginx
COPY index.html /usr/share/nginx/html/index.html
```


2. Jenkinsfile



```
GNU nano 8.3 Jenkinsfile Modified
node {
  def app
  stage('Clone repository') {
    checkout scm
  }
  stage('Build image') {
    app = docker.build("Marko-Ivanovski/KIII-Homework-4")
  }
  stage('Push image') {
    docker.withRegistry('https://registry.hub.docker.com', 'dockerhub') {
      app.push("${env.BRANCH_NAME}-${env.BUILD_NUMBER}")
      app.push("${env.BRANCH_NAME}-latest")
      // signal the orchestrator that there is a new version
    }
  }
}
```

3. New Pipeline

Jenkins

Pipelines Administration  Logout

Pipelines  New Pipeline

NAME	HEALTH	BRANCHES	PR
KIII-Homework-4		-	- 



Where do you store your code?



Bitbucket Cloud



Bitbucket Server



GitHub



GitHub Enterprise



Git



Connect to GitHub

Jenkins needs an access token to authorize itself with GitHub.
[Create an access token here.](#)

.....



Which organization does the repository belong to?



Marko-Ivanovski



Choose a repository

Loaded 16 repositories



Search...

Information_Security_Labs

KIII-Homework-4

Lead_Generator

Pabau-Project

Create Pipeline



Naming conflict

'KIII-Homework-4' is unavailable. A unique name is required.

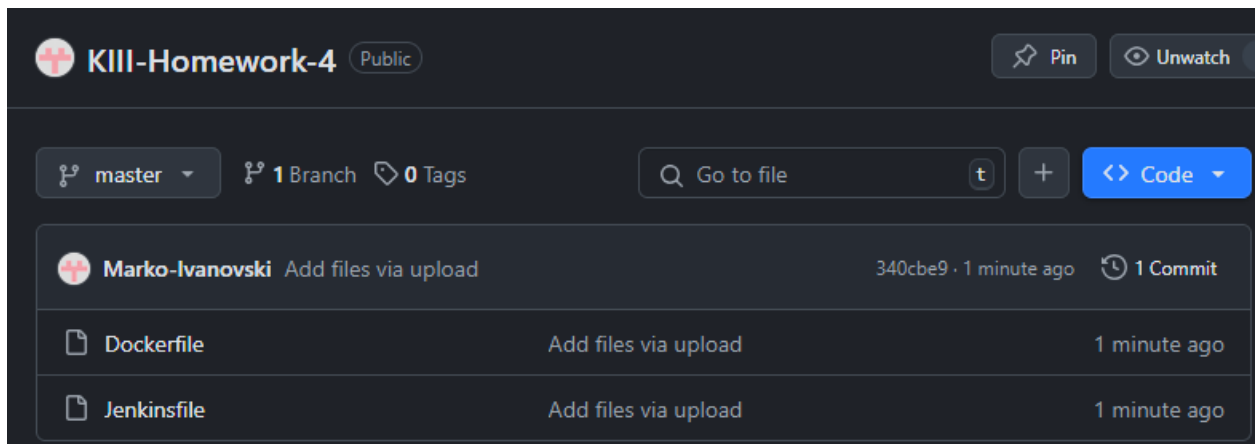
Pipeline name

Save

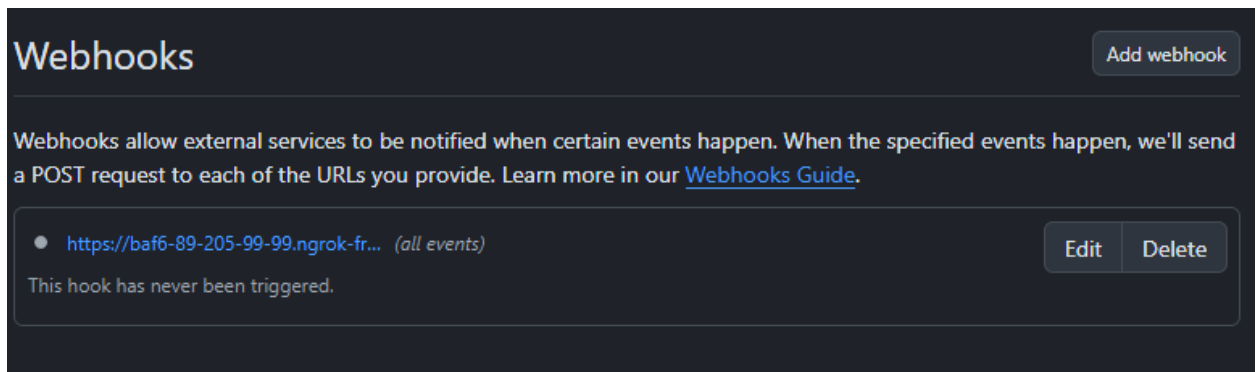


Completed

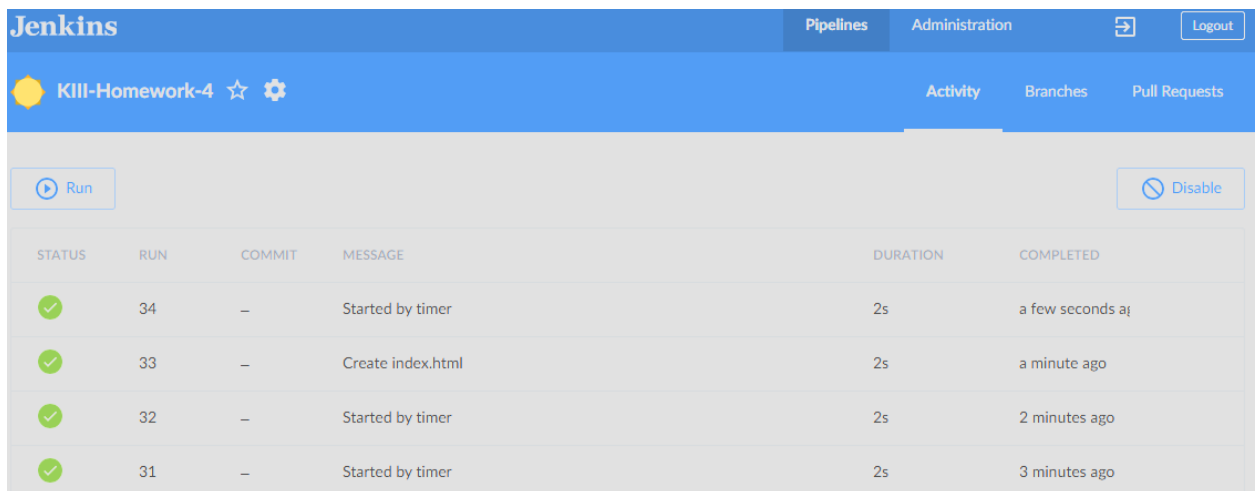
4. Pushed Jenkinsfile and Dockerfile to Github



5. Created Webhook



6. Added index.html to repo and Pipeline changes



7. Created dev branch, and changed content in the index.html

8. Made a Pull Request

base: master ← compare: dev ✓ Able to merge. These branches can be automatically merged.

Add a title

Update index.html in dev

Add a description

Write Preview H B I ≡ <> 🔗 | ☰ ☷ ☹ | 📎 @ ↻ ↺

Add your description here...

Markdown is supported Paste, drop, or click to add files

Create pull request

Remember, contributions to this repository should follow our [GitHub Community Guidelines](#).

Reviewers: No reviews

Assignees: No one — [assign yourself](#)

Labels: None yet

Projects: None yet

Milestone: No milestone

Development: Use [Closing keywords](#) in the description to automatically close issues

Helpful resources: [GitHub Community Guidelines](#)

1 commit 1 file changed 1 contributor

Commits on Apr 13, 2025

Update index.html in dev Verified 4d7a700 <>

Marko-Ivanovski authored now

Showing 1 changed file with 2 additions and 0 deletions. Split Unified

index.html

```

@@ -1,3 +1,5 @@
1 1 <h1>Hello World</h1>
2 2 <br/>
3 3 <p>I have added a new line</p>
4 + <br/>
5 + <p>This is a brand new line in the dev branch</p>

```

9. New changes in Pipeline

Jenkins Pipelines Administration [Logout](#)

KIII-Homework-4 ☆ ⚙

Activity Branches Pull Requests

Run Disable

STATUS	RUN	COMMIT	MESSAGE	DURATION	COMPLETED
✓	37	—	Update index.html in dev	2s	a few seconds ago
✓	36	—	Update index.html in dev	3s	a minute ago

