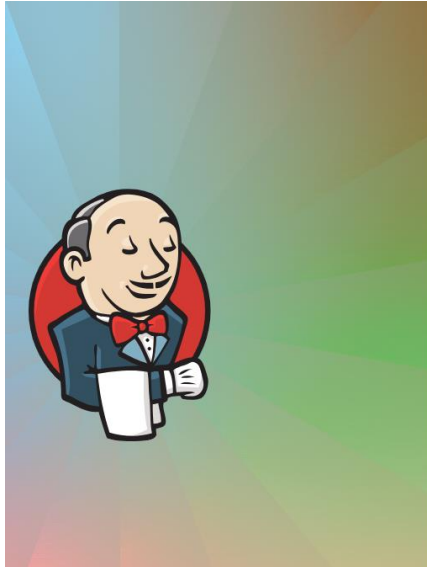


TP 5 : Docker Engine, Jenkins, CI/CD

Meggouri Ismail

Partie 1: CI

1. Jenkins installation:



Sign in to Jenkins

Username

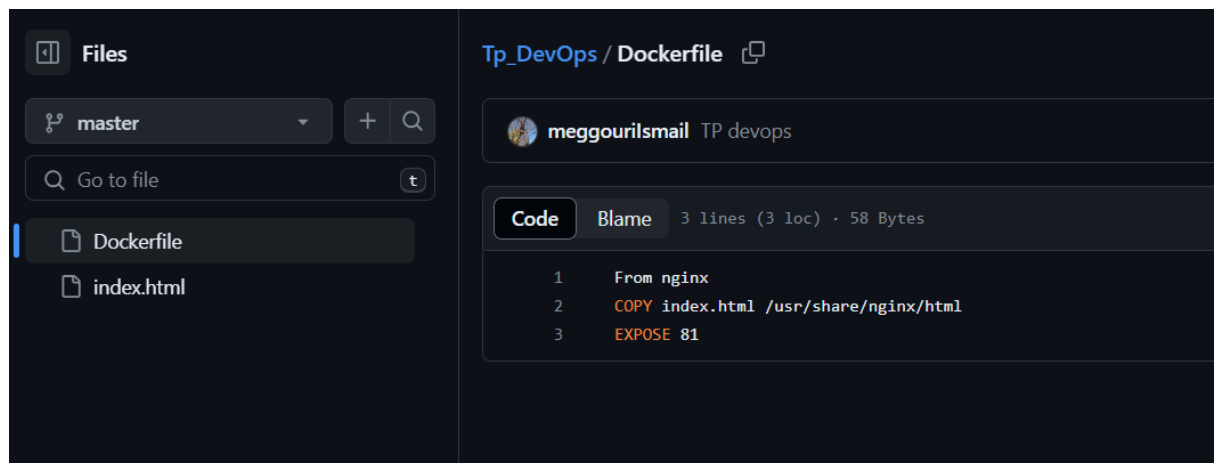
admin

Password

☐ Keep me signed in

Sign in


2. TP4 project structure, DockerFile & repo:





3. creation of the job job1tp4


job1tp4

» 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**

4.add Docker Plugins

Dashboard > Manage Jenkins > Plugins

Plugins

- Updates
- Available plugins
- Installed plugins
- Advanced settings
- Download progress

Search: docker

Released [Install](#)

<input checked="" type="checkbox"/>	Docker 1.6 Cloud Providers Cluster Management docker This plugin integrates Jenkins with Docker 1 mo 3 days ago
<input type="checkbox"/>	Docker Commons 439.va_3cb_0a_6a_fb_29 Library plugins (for use by other plugins) docker Provides the common shared functionality for various Docker-related plugins. 8 mo 9 days ago
<input checked="" type="checkbox"/>	Docker Pipeline 572.v950f58993843 pipeline DevOps Deployment docker Build and use Docker containers from pipelines. 7 mo 7 days ago
<input type="checkbox"/>	Docker API 3.3.4-86.v39b_a_5ede342c Library plugins (for use by other plugins) docker This plugin provides docker-java API for other plugins. <div>This plugin is up for adoption! We are looking for new maintainers. Visit our Adopt a Plugin initiative for more information.</div> 3 mo 18 days ago
<input type="checkbox"/>	docker-build-step 2.11 Build Tools docker This plugin allows to add various docker commands to your job as build steps. <div>Warning: This plugin version may not be safe to use. Please review the following security notices:</div> 2 mo 12 days ago

5.Job1Tp4 Config

Git ?

Repositories ?

Repository URL ?

https://github.com/meggourilmail/Tp_DevOps

Credentials ?

meggourilmail/***** (github)

+ Add

Advanced

Add Repository

Configure

General

Source Code Management

Build Triggers

Build Environment

Build Steps

Post-build Actions

Repository Name

swaylii/tpdevops

Tag

Docker Host URI ?

Server credentials

- none -

+ Add

Docker registry URL ?

Registry credentials

swaylii/***** (docker_hub)

6. rebuild job after a change in git:

Build Triggers

- ☐ Trigger builds remotely (e.g., from scripts) ?
- ☐ Build after other projects are built ?
- ☐ Build periodically ?
- ☐ GitHub hook trigger for GITScm polling ?
- ☒ Poll SCM ?

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, 24 March 2024 at 13:16:19 Western European Time; would next run at Sunday, 24 March 2024 at 13:16:19 Western European Time.

☐ Ignore post-commit hooks ?

7. Build and push:

```
p5 > Console Output

#7 naming to docker.io/souadcisse1999/tp5 done
#7 DONE 0.0s

View build details: docker-desktop://dashboard/build/desktop-linux/desktop-linux/kpwk5jd8x7j580putloqirfee

What's Next?
  View a summary of image vulnerabilities and recommendations → docker scout quickview
[tp5devops] $ docker push souadcisse1999/tp5
Using default tag: latest
The push refers to repository [docker.io/souadcisse1999/tp5]
3220350414a7: Preparing
fd31601f0be4: Preparing
93b4c8c4ac05: Preparing
b7df9f234b50: Preparing
ab75a0b61bd1: Preparing
c1b1bf2f95dc: Preparing
4d99aab1eed4: Preparing
a483da8ab3e9: Preparing
c1b1bf2f95dc: Waiting
4d99aab1eed4: Waiting
a483da8ab3e9: Waiting
b7df9f234b50: Layer already exists
ab75a0b61bd1: Layer already exists
93b4c8c4ac05: Layer already exists
fd31601f0be4: Layer already exists
3220350414a7: Layer already exists
4d99aab1eed4: Layer already exists
c1b1bf2f95dc: Layer already exists
a483da8ab3e9: Layer already exists
latest: digest: sha256:95fff6abcd9faa7ac9fd46a2077b2b967fc7485cac26bf28398a93ea109faff3 size: 1985
Finished: SUCCESS
```

Partie 2: CI/CD (continuous integration/continuous deployment)

Freestyle job 'job2tp4' with a shell script to deploy the image:

ent

Build Steps

Execute shell ?

Command

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

```
# Remove the container if it already exists
docker stop job2tp4-container || true && docker rm job2tp4-container || true

# Deploy the image to a new container
docker run -d --name job2tp4-container souadcisse1999/tp5
```

Advanced ▾

Add build step ▾

Status

</> Changes

Console Output

View as plain text

Edit Build Information

Delete build '#4 souadcisse1999/tp5'

Polling Log

Git Build Data

Previous Build

Started by an SCM change
Running as SYSTEM
Building in workspace /Users/mac/.jenkins/workspace/job2tp4
The recommended git tool is: NONE
No credentials specified
> git rev-parse --resolve-git-dir C:\ProgramData\Jenkins\.jenkins\workspace\job2tp5\.git # timeout=10
Fetching changes from the remote Git repository
> git config remote.origin.url https://github.com/meggouriIsmail/tp5Devops.git # timeout=10
Fetching upstream changes from https://github.com/meggouriIsmail/tp5Devops.git
> git --version # timeout=10
> git --version # 'git version 2.39.3 (Apple Git-145)'
> git fetch --tags --force --progress -- https://github.com/meggouriIsmail/tp5Devops.git +refs/heads/*:refs/remotes/origin/* # timeout=10
> git rev-parse refs/remotes/origin/main^{commit} # timeout=10
Checking out Revision 95b39bb0185a772b8b3f98bcde75761feeac413e (refs/remotes/origin/main)
> git config core.sparsecheckout # timeout=10
> git checkout -f 95b39bb0185a772b8b3f98bcde75761feeac413e # timeout=10
Commit message: "tp4 v3"
> git rev-list --no-walk 979aa3f34dabc86cbee3b04a3d5e666290e07a1a # timeout=10
[job2tp4] \$ /bin/sh -xe /var/folders/6t/8rdjyfb94hx6r52sdhr762b40000gn/T/jenkins6999666260602096592.sh
+ docker stop job2tp4-container
job2tp4-container
+ docker rm job2tp4-container
job2tp4-container
+ docker run -d --name job2tp4-container souadcisse1999/tp5
ab6caas5bd7e1a6522ef454e34a18211b398bef7f4426485f2eda44447abd8c00
[job2tp4] \$ docker build -t jobtp5 --pull=true C:\ProgramData\Jenkins\.jenkins\workspace\job2tp5
#0 building with "desktop-linux" instance using docker driver

Definition

Pipeline script ▾

Script ?

```
1 pipeline {
2   environment {
3     registry = "meggouri/tp5devops"
4     registryCredential = 'dockerHub'
5     dockerImage = ''
6   }
7   agent any
8   stages {
9     stage('Cloning Git') {
10      steps {
11        git branch: 'main', url: 'https://github.com/meggouriIsmail/tp5devops.git'
12      }
13    }
14    stage('Building image') {
15      steps {
16        script {
17          dockerImage = docker.build registry + ":$BUILD_NUMBER"
```

Status

</> Changes

Console Output

View as plain text

Edit Build Information

Delete build '#4 souadcisse1999/tp5'

Polling Log

Git Build Data

Previous Build

Started by an SCM change
Running as SYSTEM
Building in workspace /Users/mac/.jenkins/workspace/job2tp4
The recommended git tool is: NONE
No credentials specified
> git rev-parse --resolve-git-dir C:\ProgramData\jenkins\jenkins\workspace\jobTp5\.git # timeout=10
Fetching changes from the remote Git repository
> git config remote.origin.url https://github.com/meggouriismail/tp5Devops.git # timeout=10
Fetching upstream changes from https://github.com/meggouriismail/tp5Devops.git
> git --version # timeout=10
> git --version # 'git version 2.39.3 (Apple Git-145)'
> git fetch --tags --force --progress -- https://github.com/meggouriismail/tp5Devops.git +refs/heads/*:refs/remotes/origin/* # timeout=10
> git rev-parse refs/remotes/origin/main^{commit} # timeout=10
Checking out Revision 95b39bb0185a772b8b3f98bcde75761feeac413e (refs/remotes/origin/main)
> git config core.sparsecheckout # timeout=10
> git checkout -f 95b39bb0185a772b8b3f98bcde75761feeac413e # timeout=10
Commit message: "tp4 v3"
> git rev-list --no-walk 979aa3f34dabc86cbee3b04a3d5e666298e07a1a # timeout=10
[job2tp4] \$ /bin/sh -xe /var/folders/6t/8rdjyfb94hx6r52schr762b40008gn/T/jenkins699966620602096592.sh
+ docker stop job2tp4-container
job2tp4-container
+ docker rm job2tp4-container
job2tp4-container
+ docker run -d --name job2tp4-container souadcisse1999/tp5
ab6caa5bd7e1a6522ef454e34a18211b398bef77f4426405f2eda44447abd8c00
[job2tp4] \$ docker build -t jobtp5 --pull=true C:\ProgramData\jenkins\jenkins\workspace\jobTp5
#0 building with "desktop-linux" instance using docker driver

Stage View

Average stage times:
(Average full run time: ~25s)

#3

Mar 17 21:52

No Changes

#2

Mar 17 21:49

No Changes

#1

Mar 17 21:48

No Changes

Declarative: Checkout SCM	Cloning Git	Building image	Test image	Publish Image
2s	1s	4s	961ms	11s
2s	1s	4s	961ms	11s

Changing index.html file:

Status

</> Changes

Build Now

Configure

Delete Pipeline

Full Stage View

Rename

Pipeline Syntax

Git Polling Log

job3tp4

Add description

Disable Project

Stage View

Average stage times:
(Average full run time: ~25s)

#4

Mar 17 21:56

2 commits

#3

Mar 17 21:52

No Changes

#2

Mar 17 21:49

No Changes

#1

Mar 17 21:48

No Changes

Declarative: Checkout SCM	Cloning Git	Building image	Test image	Publish image
2s	1s	3s	961ms	11s
2s	1s	2s		
2s	1s	4s	961ms	11s

Build History

trend

Filter...

#4

17 Mar 2024, 21:56

#3

17 Mar 2024, 21:52

#2

17 Mar 2024, 21:49

#1

17 Mar 2024, 21:48

Atom feed for all

Atom feed for failures

Stage View

Average stage times:
(Average full run time: ~27s)

#6

Mar 17
22:04

1
commit

Declarative: Checkout SCM	Cloning Git	Building image	Test image	Publish Image	Deploy image
2s	1s	4s	944ms	12s	843ms
2s	1s	4s	900ms	11s	1s