

Ingeniera de Software 3

TP 7: Servidor de build

4.1: Ponemos en funcionamiento Jenkins

Creamos una imagen Docker, buildeamos y ejecutamos

```
PS C:\Users\Wico\Documents\Ing de Soft 3\TP5> docker build -t jenkins-with-dotnetcore -f Dockerfile.jenkins .
[*] Building qml.3s (8/9)
[+] Internal load build definition from Dockerfile.jenkins
[+] transferring dockerfile: 578s
[+] Internal load .dockerignore
[+] transferring context: 2B
[+] Internal load metadata for docker.io/jenkins/jenkins-its
[+] [auth] jenkins/jenkins:pull token for registry-1.docker.io
[+] [1/4] FROM docker.io/jenkins/jenkins-its:sha256:645d55b80126b67dd23b6ba65d455ebc13689d857f498fbcd7b9165f8dd64
[+] resolve docker.io/jenkins/jenkins-its:sha256:645d55b80126b67dd23b6ba65d455ebc13689d857f498fbcd7b9165f8dd64
[+] sha256:866c3e3eb2c753a06f21b6163c0ffe7e87f9a08a4e4ad48a4f4ebc3f56326d 2.77kB / 2.77kB
[+] sha256:645d55b80126b67dd23b6ba65d455ebc13689d857f498fbcd7b9165f8dd64 3.12kB / 3.12kB
[+] sha256:2a8f08de7b288a6df2b6228cbe47214f9dd993ab2c3dd10f4625a88c5a3ec24 12.62kB / 12.62kB
[+] sha256:de4cac08b6165c0cf6f8b30417948c31be03a968e233e5ee40221553a5e570 49.56MB / 49.56MB
[+] sha256:8252e4beaf270b39f017f72d117e0b4176d308023a0f5ce816896a6d53172ad70b9 77.15MB / 77.15MB
[+] sha256:88f6ef78a7d5d79fbc0b794c929597187f417c2323e5bed5510789c13ccca 1.92kB / 1.92kB
[+] sha256:1c66d3c5c341571d3fcdfe7b8e6230226cc4dc880d73d0d9af0b6412e6b335 1.23kB / 1.23kB
[+] sha256:554bf8cc2ad18d31b0aa091bfc3a7e2411db51072f3ad0ccf83b22661bdcff 185B / 185B
[+] sha256:921198132de16949f50ff8dd16f14548eeec083a8daa46c9d36376782d1265 0.45kB / 0.45kB
[+] sha256:4bf15d2379ee9add55a743529d9c0782ab51a121db12c372b582add8de45dd1d 0.85kB / 0.85kB
[+] extracting sha256:de4cac08b6165c0cf6f8b30417948c31be03a968e233e5ee40221553a5e570 1.9s
[+] sha256:de6ad7a9d9231bbc2646e3cca8221dfe0a6dc281d611fcc57058023649494sec29 6.09MB / 6.09MB
[+] sha256:c019133e9a7017f72d117e0b4176d308023a0f5ce816896a6d53172ad70b9 77.15MB / 77.15MB
[+] sha256:e3c5028ef78a7d5d79fbc0b794c929597187f417c2323e5bed5510789c13ccca 1.92kB / 1.92kB
[+] sha256:8252e4beaf270b39f017f72d117e0b4176d308023a0f5ce816896a6d53172ad70b9 77.15MB / 77.15MB
[+] sha256:a95164b0d4f0b32cfaba1ca82938454c40bd7e885c0b0567cf1d9d282cad01ba 1.16kB / 1.16kB
[+] sha256:cb07a2071ac8089321585a7a70c4ba1051d96334c6351275a8074eda13cf284 0.85kB / 0.85kB
[+] sha256:66ceb78ec89838af82ab80d50df1f3fd28e02fede4a5f9b5e52de047dd2 264B / 264B
[+] extracting sha256:88f6ef78a7d5d79fbc0b794c929597187f417c2323e5bed5510789c13ccca 0.1s
[+] extracting sha256:1c66d3c5c341571d3fcdfe7b8e6230226cc4dc880d73d0d9af0b6412e6b335 0.85kB / 0.85kB
[+] extracting sha256:554bf8cc2ad18d31b0aa091bfc3a7e2411db51072f3ad0ccf83b22661bdcff 0.85kB / 0.85kB
[+] sha256:921198132de16949f50ff8dd16f14548eeec083a8daa46c9d36376782d1265 0.45kB / 0.45kB
[+] extracting sha256:4bf15d2379ee9add55a743529d9c0782ab51a121db12c372b582add8de45dd1d 0.85kB / 0.85kB
[+] sha256:de6ad7a9d9231bbc2646e3cca8221dfe0a6dc281d611fcc57058023649494sec29 6.09MB / 6.09MB
[+] extracting sha256:c019133e9a7017f72d117e0b4176d308023a0f5ce816896a6d53172ad70b9 77.15MB / 77.15MB
[+] sha256:e3c5028ef78a7d5d79fbc0b794c929597187f417c2323e5bed5510789c13ccca 1.92kB / 1.92kB
[+] sha256:a95164b0d4f0b32cfaba1ca82938454c40bd7e885c0b0567cf1d9d282cad01ba 1.16kB / 1.16kB
[+] extracting sha256:cb07a2071ac8089321585a7a70c4ba1051d96334c6351275a8074eda13cf284 0.85kB / 0.85kB
[+] extracting sha256:66ceb78ec89838af82ab80d50df1f3fd28e02fede4a5f9b5e52de047dd2 264B / 264B
[+] [2/4] RUN apt-get update && apt-get install -y apt-transport-https software-properties-common wget
[+] [3/4] RUN wget -q https://packages.microsoft.com/config/ubuntu/20.04/packages-microsoft-prod.deb -O packages-microsoft-prod.deb && dpkg -i packages-microsoft-prod.deb && apt-get update
[+] [4/4] RUN apt-get install -y dotnet-sdk-7.0
[+] exporting to image
[+] exporting layers
```

```
Directory: C:\

Mode                LastWriteTime         Length Name
----                -
d-----          9/19/2023   2:30 PM             jenkins

PS C:\Users\Wico\Documents\Ing de Soft 3\TP5> docker run -d -p 8080:8080 -p 50000:50000 --name jenkins -v c:\jenkins\var\jenkins_home jenkins-with-dotnetcore
beca78a9c0d9c74b76a35e66c81d78a2cc72c88a895e4b4c72e8a489739a7c51
PS C:\Users\Wico\Documents\Ing de Soft 3\TP5> mkdir -p c:\jenkins
```

Buscamos la contraseña dentro del contenedor.

```
Logs    Inspect    Bind mounts    Terminal    Files    Stats
$ pwd
/
$ cd var
$ ls
backups cache jenkins_home lib local lock log mail opt run spool tmp
$ cd jenkins_home
/bin/sh: 4: cd: can't cd to jenkins_home
$ cd jenkins_home
/bin/sh: 5: cd: can't cd to jenkins_home
$ cd secrets
$ ls
initialAdminPassword jenkins.model.Jenkins.crumbSalt master.key
$ cat initialAdminPassword
5503fd8ded4d4538bac902f6767e2143
$ ^C
$
```

Instalamos plugins por defecto

Getting Started

Getting Started

✓ Folders	✓ OWASP Markup Formatter	✓ Build Timeout	✓ Credentials Binding	** Ionicons API
✓ Timestamper	⌚ Workspace Cleanup	⌚ Ant	⌚ Gradle	Folders
⌚ Pipeline	⌚ GitHub Branch Source	⌚ Pipeline: GitHub Groovy Libraries	⌚ Pipeline: Stage View	OWASP Markup Formatter
⌚ Git	⌚ SSH Build Agents	⌚ Matrix Authorization Strategy	⌚ PAM Authentication	** Structs
⌚ LDAP	⌚ Email Extension	⌚ Mailer		** bouncycastle API
				** Instance Identity
				** JavaBeans Activation Framework (JAF) API
				** JavaMail API
				** Pipeline: Step API
				** Token Macro
				Build Timeout
				** Credentials
				** Plain Credentials
				** Trilead API
				** SSH Credentials
				Credentials Binding
				** SCM API
				** Pipeline: API
				** commons-lang3 v3.x Jenkins API
				Timestamper
				** Caffeine API
				** Script Security
				** JAXB
				** SnakeYAML API
				** Jackson 2 API
				** commons-text API
				** Pipeline: Supporting APIs
				** Plugin Utilities API
				** Font Awesome API
				** - required dependency

Jenkins 2.414.1

Creamos admin inicial.

Getting Started

Create First Admin User

Username

admin

Password

....

Confirm password

....

Full name

Nicolas Colman


E-mail address

nicolman01@gmail.com

Jenkins 2.414.1

Skip and continue as admin

Save and Continue

 **Jenkins**

Dashboard > Manage Jenkins > Plugins

Updates

Available plugins

Installed plugins

Advanced settings

Download progress

Download progress

Preparation

- Checking internet connectivity
- Checking update center connectivity
- Success

.NET SDK Support

Success

Loading plugin extensions

Running

→ [Go back to the top page](#)
(you can start using the installed plugins right away)

→ ☐ Restart Jenkins when installation is complete and no jobs are running

4.3: Creamos un first-job a traves de una linea de comandos y vemos el siguiente output.

Dashboard > first-job > #2 > Console Output

Status

Changes

Console Output

View as plain text

Edit Build Information

Delete build '#2'

Previous Build

✓ Console Output

Started by user [Nicolas Colman](#)

Running as SYSTEM

Building in workspace /var/jenkins_home/workspace/first-job

```
[first-job] $ /bin/sh -xe /tmp/jenkins1758805490903730845.sh
```

+ date +%Y-%m-%d %H:%M:%S

+ current_datetime=2023-09-19 18:03:13

+ echo La fecha y hora actual es: 2023-09-19 18:03:13

La fecha y hora actual es: 2023-09-19 18:03:13

Finished: SUCCESS

4.4: Creamos el primer Pipeline Job con hello-world

Pipeline

Definition

Pipeline script

Script ?

```
1 pipeline {
2   agent any
3
4   stages {
5     stage('Hello') {
6       steps {
7         echo 'Hello World'
8       }
9     }
10  }
11 }
12
```

Hello World

☒ Use Groovy Sandbox ?

[Pipeline Syntax](#)

Save Apply

1 pipeline {
2 agent any
3
4 stages {
5 stage('Hello') {
6 steps {
7 echo 'Hello World'
8 }
9 }
10 }
11 }
12

Dashboard > hello-world > #1

- Status
- Changes
- Console Output**
- View as plain text
- Edit Build Information
- Delete build '#1'
- Restart from Stage
- Replay
- Pipeline Steps
- Workspaces

Console Output

```

Started by user Nicolas Colman
[Pipeline] Start of Pipeline
[Pipeline] node
Running on Jenkins in /var/jenkins_home/workspace/hello-world
[Pipeline] {
[Pipeline] stage
[Pipeline] { (Hello)
[Pipeline] echo
Hello World
[Pipeline] }
[Pipeline] // stage
[Pipeline] }
[Pipeline] // node
[Pipeline] End of Pipeline
Finished: SUCCESS

```

4.5: Pipeline Job con Git, ejecutando el job vemos el siguiente resultado

Dashboard > github-job >

- Status
- Changes
- Build Now
- Configure
- Delete Pipeline
- Full Stage View
- Rename
- Pipeline Syntax

Pipeline github-job

Stage View

Average stage times:
(Average full run time: ~6s)

Build: 5s

#1 Sep 19 15:08 No Changes

Permalinks

Build History trend

Filter builds...

#1 Sep 19, 2023, 6:08 PM

Atom feed for all Atom feed for failures

4.6: Job con .NetCore

Hacemos un fork y configuramos con mi repositorio, en la imagen que guarde sin querer puse otro repositorio pero despues lo corrijo.

Source Code Management

☐ None

☒ Git ?

Repositories ?

Repository URL ?

https://github.com/ingsoft3ucc/SimpleWebAPI

Credentials ?

- none -

Add

Advanced

Add Repository

Branches to build ?

Monitoreamos cambio de la repo con un poll cada 1 min.

Configure

General

Source Code Management

Build Triggers

Build Environment

Build Steps

Post-build Actions

Add

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 Tuesday, September 19, 2023 at 6:49:16 PM Coordinated Universal Time; would next run at Tuesday, September 19, 2023 at 6:49:16 PM Coordinated Universal Time.

☐ Ignore post-commit hooks ?

Build Environment

Jenkins Search (CTR)

Dashboard > git-netcore-job > Workspace

Workspace of git-netcore-job on Built-In Node

git-netcore-job / →

- .git
- SimpleWebAPI
- .gitignore Sep 19, 2023, 6:15:14 PM 6.99 KB
- Dockerfile Sep 19, 2023, 6:15:14 PM 771 B
- README.md Sep 19, 2023, 6:48:11 PM 73 B
- SimpleWebAPISln Sep 19, 2023, 6:15:14 PM 1.11 KB

[\(all files in zip\)](#)

Build History

trend ▾

Filter builds... /

- #3 Sep 19, 2023, 6:48 PM
- #2 Sep 19, 2023, 6:20 PM
- #1 Sep 19, 2023, 6:15 PM

[Atom feed for all](#) [Atom feed for failures](#)

Podemos observar como funciona correctamente ya que el archivo README.md fue modificado y tiene otra fecha por lo que se entiende que hubo un commit.

No es posible tener un WebHook ya que este es mucho mas complejo y requiere una mayor cantidad de recursos.

El ejecutar periodicamente no se puede utilizar ya que este trae todo aunque no hayan habido cambios cada una cierta cantidad de tiempo.