

PROYECTO FINAL DEVOPS

Instala las siguientes herramientas en tu Sistema Operativo de tu preferencia:

Ciente GIT

The screenshot shows the GitHub interface for the repository 'geanc22/Project-devops-calc'. It displays the repository name, a warning that the master branch is not protected, and a list of files and their commit history. The files listed are .mvnw/wrapper, src, .gitignore, Dockerfile, README.md, jenkinsfile, and mvnw. The commit history shows that most files were added in the 'second commit' 2 days ago, while 'jenkinsfile' was added in the 'tercer commit' yesterday.

Jenkins

The screenshot shows the Jenkins dashboard. On the left, there's a sidebar with navigation options like 'Nueva Tarea', 'Personas', 'Historial de trabajos', 'Administrar Jenkins', and 'Mis vistas'. The main area displays a table of builds. The table has columns for status (S), icon (W), name (Nombre), last success (Último Éxito), last failure (Último Fallo), and duration (Última Duración). The builds listed are 'buildDevops', 'devopsTest', 'jenkinsfileProject', and 'springTest'. The 'devopsTest' build is the most recent and successful one.

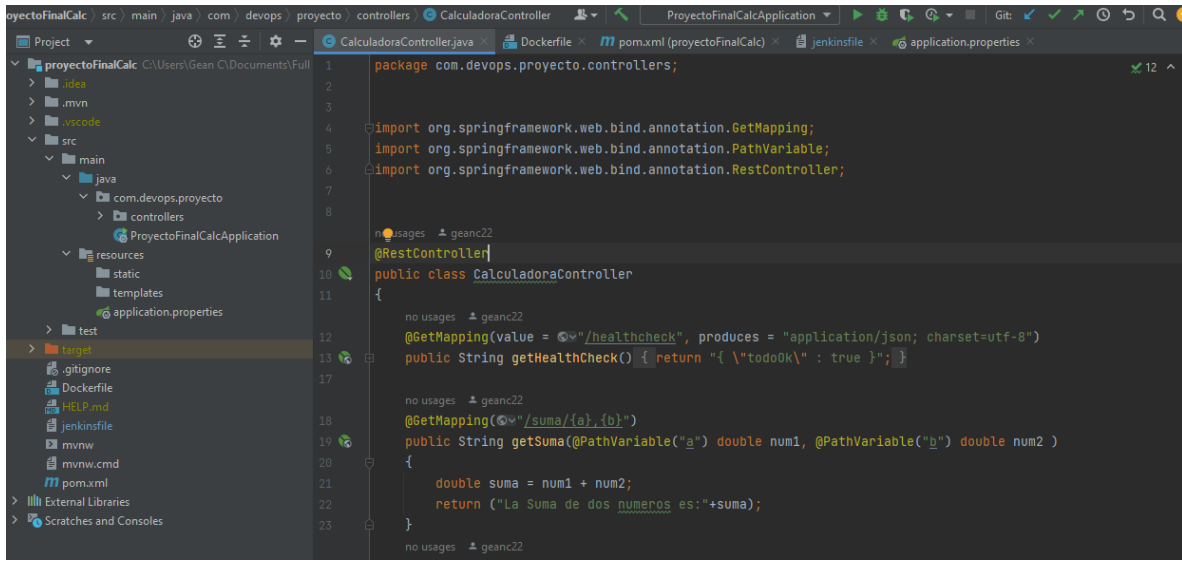
S	W	Nombre	Último Éxito	Último Fallo	Última Duración
✗	🔧	buildDevops	N/D	4 Hor 11 Min #3	3.5 Seg
✓	☁	devopsTest	21 Hor #9	23 Hor #7	5.2 Seg
✗	🔧	jenkinsfileProject	N/D	4 Hor 41 Min #12	19 Seg
✗	🔧	springTest	N/D	2 Hor 48 Min #8	10 Seg

Docker Desktop

The screenshot shows the Docker Desktop interface. The left sidebar contains navigation options like 'Containers', 'Images', 'Volumes', 'Dev Environments', and 'Extensions'. The main area displays a table of Docker images. The table has columns for tags, OS, vulnerabilities, last pushed time, and size. The images listed are 'geanc22/demo-servicio', 'geanc22/servicio-cursos', 'geanc22/angular-app', and 'geanc22/proyectedevops'. All images are tagged as 'v01' and were pushed 10 days ago or less.

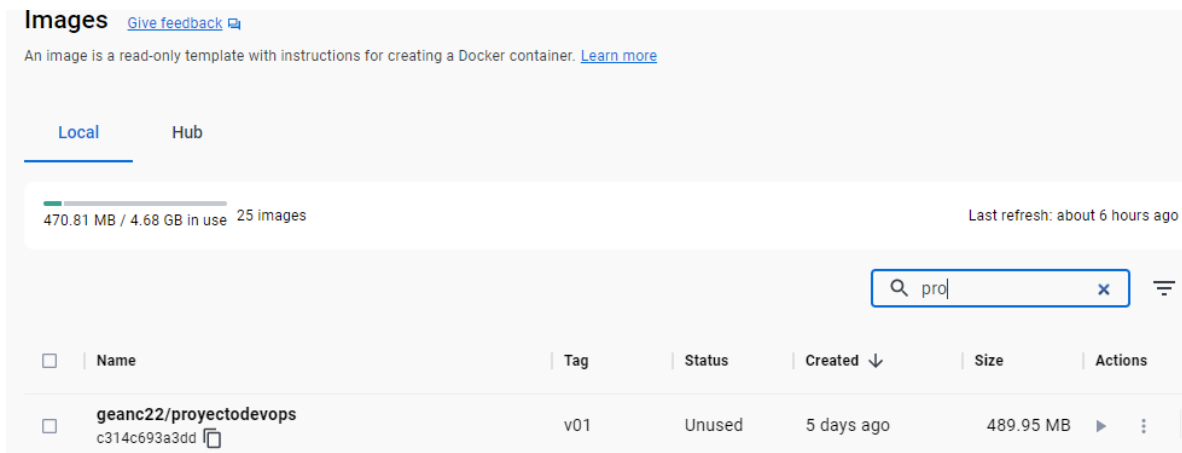
TAGS	OS	VULNERABILITIES	LAST PUSHED	SIZE
geanc22/demo-servicio	v01	Not available	10 days ago	280.36 MB
geanc22/servicio-cursos	v01	Not available	10 days ago	303.4 MB
geanc22/angular-app	v01	Not available	9 days ago	8.51 MB
geanc22/proyectedevops	v01	Not available	about 4 hours ago	259.83 MB

Crea una aplicación en tu lenguaje de preferencia que sume 2 números y se solicite mediante una petición REST.



```
1 package com.devops.proyecto.controllers;
2
3
4 import org.springframework.web.bind.annotation.GetMapping;
5 import org.springframework.web.bind.annotation.PathVariable;
6 import org.springframework.web.bind.annotation.RestController;
7
8
9 @RestController
10 public class CalculadoraController
11 {
12     no usages  ▲ geanc22
13     @GetMapping(value = "/healthcheck", produces = "application/json; charset=utf-8")
14     public String getHealthCheck() { return "{\"todoOk\" : true }"; }
15
16     no usages  ▲ geanc22
17     @GetMapping("/suma/{a},{b}")
18     public String getSuma(@PathVariable("a") double num1, @PathVariable("b") double num2 )
19     {
20         double suma = num1 + num2;
21         return ("La Suma de dos numeros es:"+suma);
22     }
23 }
```

Dockerizar la aplicación, ejecutarlo como contenedor en Docker y validar la operación suma.



Images [Give feedback](#)

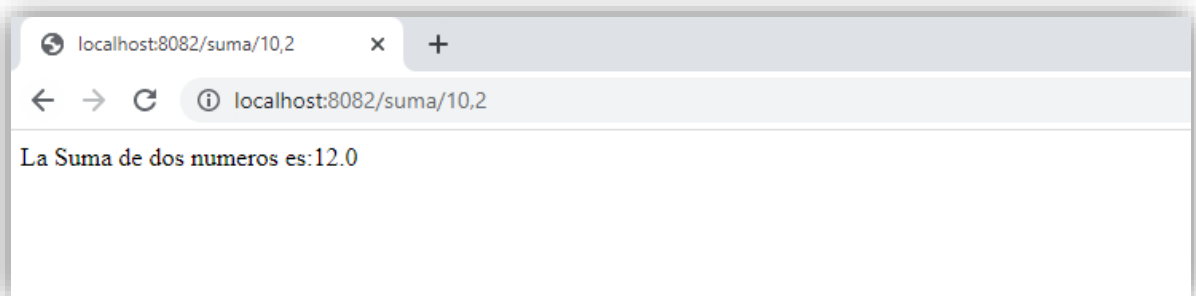
An image is a read-only template with instructions for creating a Docker container. [Learn more](#)

Local Hub

470.81 MB / 4.68 GB in use 25 Images Last refresh: about 6 hours ago

Search: pro

<input type="checkbox"/>	Name	Tag	Status	Created ↓	Size	Actions
<input type="checkbox"/>	geanc22/proyectodevops c314c693a3dd	v01	Unused	5 days ago	489.95 MB	▶ ⋮



Crea tu cuenta en tu proveedor de control de versiones preferido, crea tu repositorio, sube tu código fuente a un branch del repositorio.

The screenshot shows the GitHub interface for a repository named 'geanc22/Project-devops-calc'. The repository is private and has 5 branches and 0 tags. A notification states 'Your master branch isn't protected'. The commit history shows a 'tercer commit' by 'geanc22' yesterday, with 4 commits in total. The file list includes .mvnw/wrapper, src, .gitignore, Dockerfile, README.md, jenkinsfile, mvnw, and mvnw.cmd. The right sidebar shows 'About' (no description), 'Releases' (no releases published), and 'Packages' (no packages published).

File	Commit	Time
.mvnw/wrapper	second commit	2 days ago
src	second commit	2 days ago
.gitignore	second commit	2 days ago
Dockerfile	second commit	2 days ago
README.md	first commit	2 days ago
jenkinsfile	tercer commit	yesterday
mvnw	second commit	2 days ago
mvnw.cmd	second commit	2 days ago

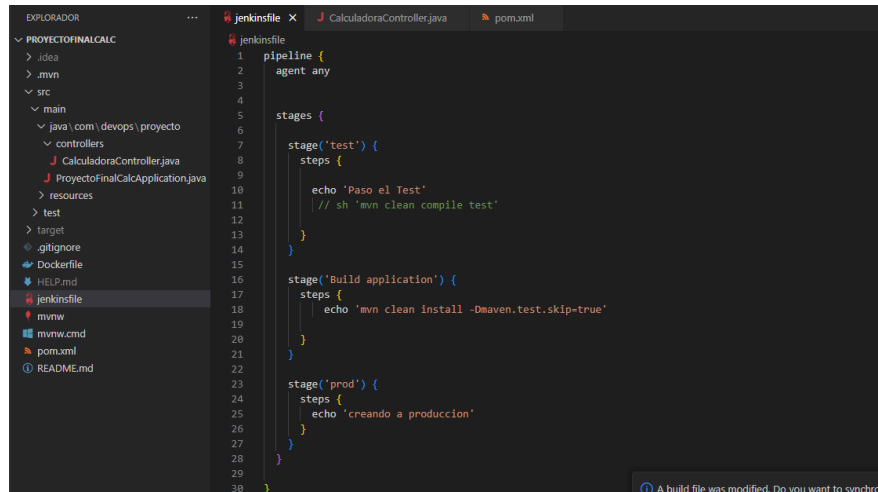
Crea tu cuenta en Docker hub, crea tu repositorio y sube tu imagen.

The screenshot shows the Docker Hub interface for a repository named 'geanc22/projectodevops'. The repository is public and has 1 tag(s). The description states 'This repository does not have a description'. The last pushed time is '4 hours ago'. The tags section shows a tag 'v01' of type 'Image' pushed '4 hours ago'. The right sidebar shows 'Docker commands' (docker push geanc22/projectodevops:tagname) and 'Automated Builds' (manually pushing images to Hub).

Tag	OS	Type	Pulled	Pushed
v01	linux	Image	---	4 hours ago

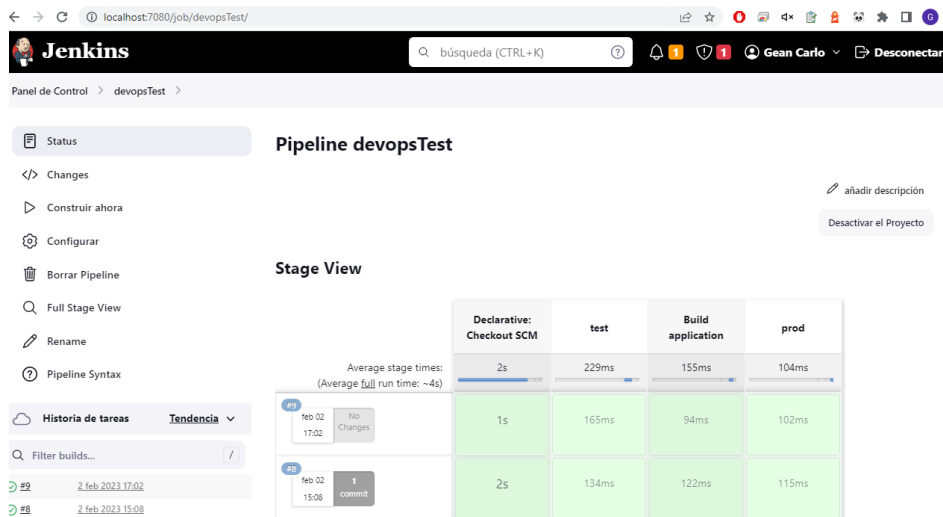
Realizar los siguientes Steps en un Jenkinsfile para los ambientes de Dev, Test y Prod:

- Obtener el código fuente del control de versiones

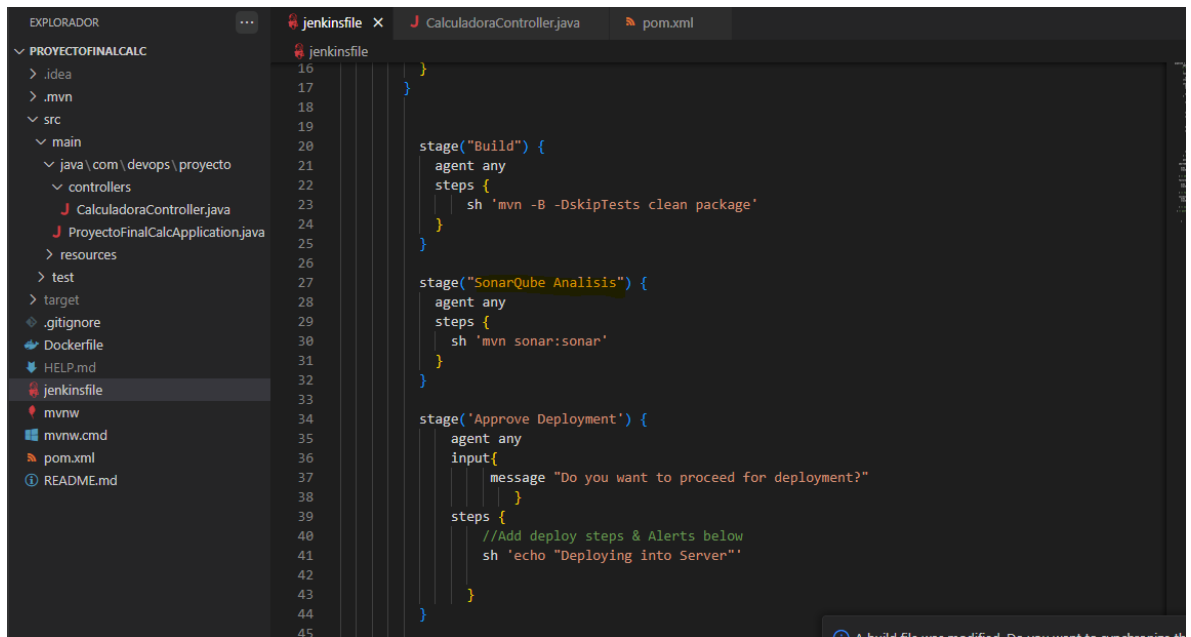


```
1 pipeline {
2   agent any
3
4   stages {
5
6     stage('test') {
7       steps {
8         echo 'Paso el Test'
9         // sh 'mvn clean compile test'
10      }
11    }
12
13    stage('Build application') {
14      steps {
15        echo 'mvn clean install -Dmaven.test.skip=true'
16      }
17    }
18
19    stage('prod') {
20      steps {
21        echo 'creando a produccion'
22      }
23    }
24  }
25 }
```

- Realizar las pruebas unitarias (Solo Dev y Test)



- Analizar el código con Sonarqube (Solo Dev y Test)



```
16 }
17 }
18 }
19
20 stage("Build") {
21   agent any
22   steps {
23     sh 'mvn -B -DskipTests clean package'
24   }
25 }
26
27 stage("SonarQube Analisis") {
28   agent any
29   steps {
30     sh 'mvn sonar:sonar'
31   }
32 }
33
34 stage('Approve Deployment') {
35   agent any
36   input{
37     message "Do you want to proceed for deployment?"
38   }
39   steps {
40     //Add deploy steps & Alerts below
41     sh 'echo "Deploying into Server"'
42   }
43 }
44
45 }
```

Instala los plugins necesarios en Jenkins para que realiza la integración con tu proveedor de control de versiones y docker.

The screenshot shows the Jenkins 'Plugins' page. The left sidebar contains navigation links: Updates, Available plugins, Installed plugins (selected), Advanced settings, and Download progress. The main area is titled 'Plugins' and features a search bar with 'pipeline' entered. Below the search bar, a table lists installed plugins with columns for 'Nombre' and 'Activados'. The table includes the following entries:

Nombre	Activados
Pipeline 590.v6a_d052e5a_a_b_5 A suite of plugins that lets you orchestrate automation, simple or complex. See Pipeline as Code with Jenkins for more details. Report an issue with this plugin	<input checked="" type="checkbox"/>
Pipeline Graph Analysis Plugin 202.va_d268e64deb_3 Provides a REST API to access pipeline and pipeline run data. Report an issue with this plugin	<input checked="" type="checkbox"/>
Pipeline: API 1208.v0cc7c6e0da_9e	

Below this, there is a section for 'Available plugins' with a search bar containing 'git'. It lists several plugins that are not currently installed, including 'Git plugin', 'GitHub API Plugin', 'GitHub Branch Source Plugin', 'GitHub plugin', and 'Pipeline: GitHub Groovy Libraries', each with a description and a 'Report an issue with this plugin' link.

Repositorio público de Docker Hub:

<https://hub.docker.com/repository/docker/geanc22/proyectodevops/general>

The screenshot shows the Docker Hub repository page for 'geanc22/proyectodevops'. The top navigation bar includes 'dockerhub', a search bar, and links for 'Explore', 'Repositories', 'Organizations', and 'Help'. The repository name 'geanc22/proyectodevops' is displayed, along with a 'General' tab selected. Below the tabs, there is a section for adding a short description for the repository. The repository is currently empty, with a message stating 'This repository does not have a description'. The 'Last pushed' time is '4 hours ago'. On the right side, there is a 'Docker commands' section with a 'Public View' button and a code block showing the command: `docker push geanc22/proyectodevops:tagname`.