

DEVOPS TUTORIAL: AUTOMATING WEB APPLICATION USING JENKINS, DOCKER AND GITHUB.

In RHEL 8 We will create the testing environment and the production by the help of docker technology.

Setting the environment

Base-OS is RHEL 8 (We will install Docker-CE in RHEL 8 and also we will install Jenkins in same machine)

In Base OS make sure that your selinux is on of off (Enabled / Permissive)

We can check selinux status by sestatus command .If it is in enabled run setenforce 0 for disabling)

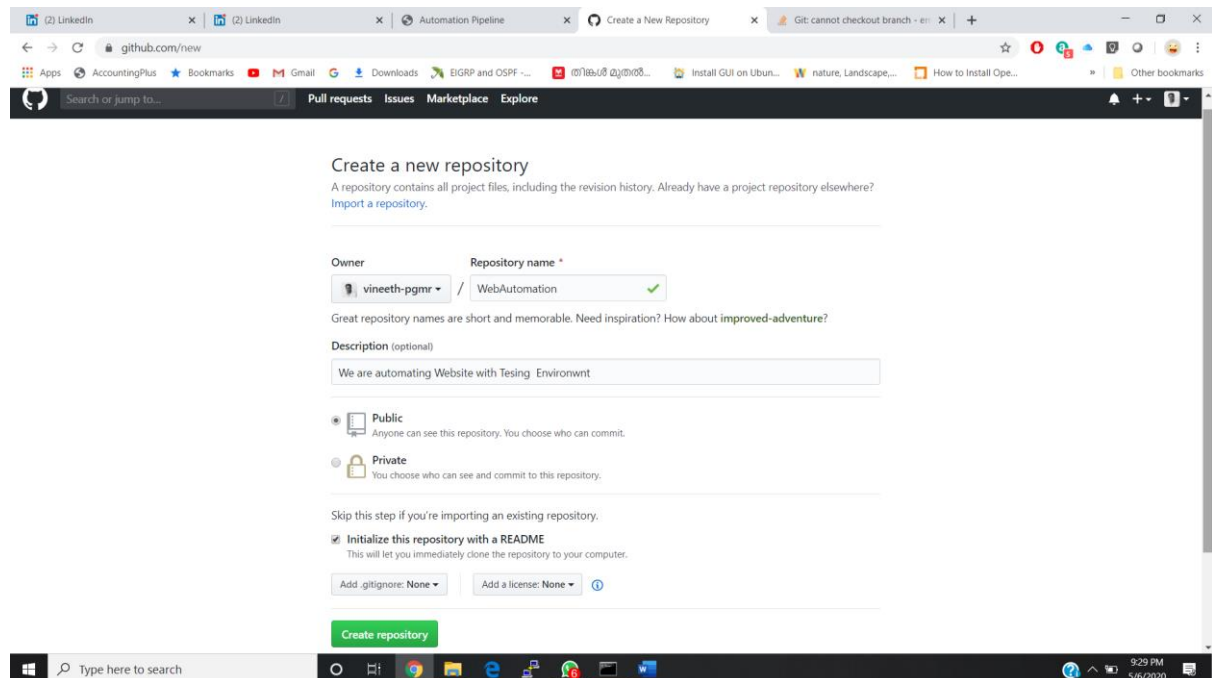
Also check status of firewall ,By using systemctl firewalld command ,if it is on you can disable using (systemctl disable firewalld)command

Testing Environment is creating by the help of docker

Production Environment is also creating in Docker

We are installing Jenkins in the base system and installing git plugin & creation jobs according to our requirements.

Setting Github



Setting The Developing Environment

```
MINGW64:/h/WorkSpace/webautomation
Vineeth Pokkavayalil@DESKTOP-0FF9USV MINGW64 /h/WorkSpace/webautomation
$ git commit https://github.com/vineeth-pgmr/WebAutomation.git
fatal: not a git repository (or any of the parent directories): .git

Vineeth Pokkavayalil@DESKTOP-0FF9USV MINGW64 /h/WorkSpace/webautomation
$ git init
Initialized empty Git repository in H:/WorkSpace/webautomation/.git/

Vineeth Pokkavayalil@DESKTOP-0FF9USV MINGW64 /h/WorkSpace/webautomation (master)
$ git clone https://github.com/vineeth-pgmr/WebAutomation.git
Cloning into 'WebAutomation'...
remote: Enumerating objects: 3, done.
remote: Counting objects: 100% (3/3), done.
remote: Compressing objects: 100% (2/2), done.
remote: Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
Receiving objects: 100% (3/3), done.

Vineeth Pokkavayalil@DESKTOP-0FF9USV MINGW64 /h/WorkSpace/webautomation (master)
$
```

Cloning the content from GitHub

```
Vineeth Pokkavayalil@DESKTOP-0FF9USV MINGW64 /h/WorkSpace/WebAutomation (master)
$ git branch
  dev1
  dev2
* master

Vineeth Pokkavayalil@DESKTOP-0FF9USV MINGW64 /h/WorkSpace/WebAutomation (master)
$
```

Branches Present in Git

```
Vineeth Pokkavayalil@DESKTOP-0FF9USV MINGW64 /h/WorkSpace/WebAutomation (master)
$ git log --oneline
aa54691 (HEAD -> master, origin/master, origin/HEAD) 10th by master
4b5b43c 9th by master
4cd07da 8th commit by master
e3db9e8 (origin/dev2, origin/dev1, dev2, dev1) 7th commit by (dev1)
95ae1d7 third commit (dev1)
9ca14e6 second commit (dev1)
71b0093 first commit(dev1)
dcef0cb Third commit
57cb836 Second commit
093d3aa first commit
8dbe0c8 Initial commit

Vineeth Pokkavayalil@DESKTOP-0FF9USV MINGW64 /h/WorkSpace/WebAutomation (master)
$
```

Git Log

All Jobs are working Perfectly

The screenshot shows the Jenkins web interface. The top navigation bar includes the Jenkins logo, a search bar, and user information (admin, log out). The left sidebar contains links for New Item, People, Build History, Manage Jenkins, My Views, Credentials, and New View. The main content area displays a table of jobs. The table has columns for Status (S), Web icon (W), Name, Last Success, Last Failure, and Last Duration. Three jobs are listed: job1, job2, and job3, all with a status of 'S' (Success). Below the table, there is a legend for Atom feeds and a footer indicating the page was generated on May 6, 2020.

| S | W | Name | Last Success | Last Failure | Last Duration |
|---|---|------|--------------|-------------------|---------------|
| S | | job1 | 32 min - #3 | 35 min - #2 | 3.5 sec |
| S | | job2 | 11 min - #2 | 52 min - #1 | 2.9 sec |
| S | | job3 | 2 min - #3 | 8 min 40 sec - #4 | 1.2 sec |

Icon: S M L

Legend: Atom feed for all Atom feed for failures Atom feed for just latest builds

Page generated: May 6, 2020 11:48:59 PM PDT [RESTART](#) Jenkins ver. 2.222.3

Configuration Part of job1

Source Code Management

☐ None
☒ Git

Repositories

Repository URL

https://github.com/vineeth-pgmr/WebAutomation.git

Credentials

- none -

Add

Advanced...

Add Repository

Branches to build

Branch Specifier (blank for 'any')

*/master

Add Branch

Repository browser

(Auto)

Additional Behaviours

Add

Build Triggers

☐ Trigger builds remotely (e.g., from scripts)
☐ Build after other projects are built
☐ Build periodically
☒ 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 Wednesday, May 6, 2020 11:59:38 PM PDT; would next run at Wednesday, May 6, 2020 11:59:38 PM PDT.

☐ Ignore post-commit hooks

Build

Execute shell

Command

```
if sudo docker ps | grep production_env
then
echo "Prod server already running"
else
sudo docker run -d -t -i -p 8081:80 -v /prodenv:/usr/local/apache2/htdocs/ --name production_env httpd
fi
sudo cp -r -v -f * /prodenv/
```

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

Advanced...

Add build step

Configuration of Job2

Build

Execute shell

Command

```
if sudo docker ps | grep testingenv
then
echo "Test server already running"
else
sudo docker run -d -t -i -p 8082:80 -v /testenv:/usr/local/apache2/htdocs/ --name testingenv httpd
fi
sudo cp -r -v -f * /testenv/
```

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

Advanced...

Add build step ▾

Configuration of Job 3

General

Source Code Management

Build Triggers

Build

Post-build Actions

Description

[Plain text] Preview

☐ Discard old builds

☐ This project is parameterized

☐ Throttle builds

☐ Disable this project

☐ Execute concurrent builds if necessary

Advanced...

Source Code Management

None

Git

Repositories

Save

Apply

Repository URL

https://github.com/vineeth-pgmn/WebAutomation.git

Credentials

- none -

Add

Advanced...

Add Repository

Branches to build

Branch Specifier (blank for 'any')

*dev1

Add Branch

Additional Behaviours

Save

Apply

Merge before build

Name of repository

origin

Branch to merge to

master

Merge strategy

default

Fast-forward mode

--#

Add

Build Triggers

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

☒ Build after other projects are built

Projects to watch

job2,

☒ Trigger only if build is stable

☐ Trigger even if the build is unstable

☐ Trigger even if the build fails

Save

Apply

☐ Poll SCM

Build

Add build step

Post-build Actions

Build other projects

Projects to build

job1

☒ Trigger only if build is stable

☐ Trigger even if the build is unstable

☐ Trigger even if the build fails

Git Publisher

Push Only if Build Succeeds

☒

Save

Apply

If pre-build merging is configured, push the result back to the origin

☒

If pre-build merging is configured, push the result back to the origin

☐

Force Push

☐

Add force option to git push

Add Tag

Tags to push to remote repositories

Add Branch

Branches to push to remote repositories

Add Note

Notes to push to remote repositories

Add Note

Add post-build action

Save

Apply