# Jenkins lab 1

## Part 1 – Explore IDE and create a Jenkin job

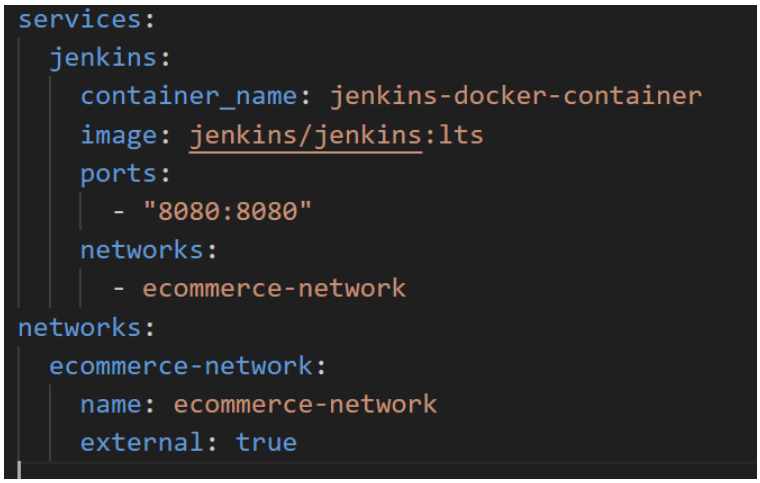
### Objectives

- In this part you will install Jenkins using Docker technology.
- Investigate the Jenkins IDE.
- Create a basic Job and explore its options

1- Create a folder
2- Open the folder in VS-Code
3- Create a file called docker-composed.yml
4- Copy the following to the yml file

```
services:
  jenkins:
    container_name: jenkins-docker-container
    image: jenkins/jenkins:lts
    ports:
      - "8080:8080"
    networks:
      - ecommerce-network
networks:
  ecommerce-network:
    name: ecommerce-network
    external: true
```

Here is a picture showing the correct indentation



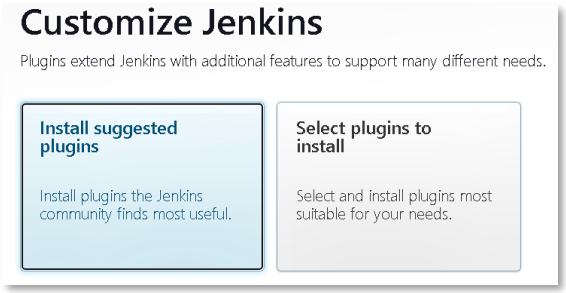

5- Test your file by typing the following command in a Terminal window: **`docker-compose config`**
This command will type the contents of the file if it is valid.
6-
7- Run the command: **`docker-compose up -d`**
And then wait for a minute. This command will install Jenkins in detached and will not echo the secret password which you need to start Jenkins.
8-

9- Get the Jenkin's docker ID (**`docker ps`**). In this example we assume the ID starts with **e7b**

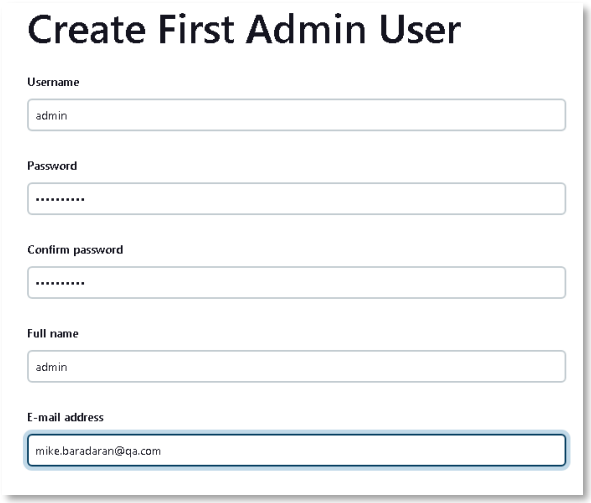
10- Run the following command to get the Jenkins secret password:
**`docker exec -it e7b cat`** `/var/jenkins_home/secrets/initialAdminPassword`
copy the secret password

11- In a browser type: **localhost:8080**
Copy the secret Administrator password from step 10

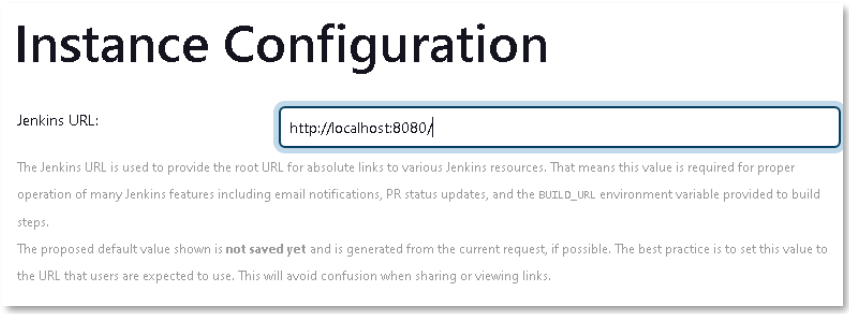

12- Install the suggested plugins

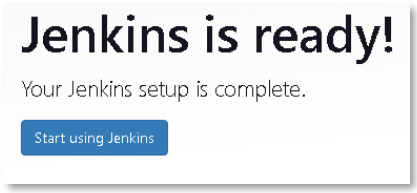



13- Create the admin user (any name and password will do. The email is not checked)

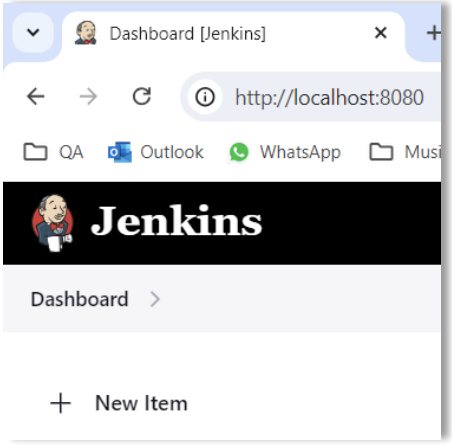



14- Follow the rest of the dialogs

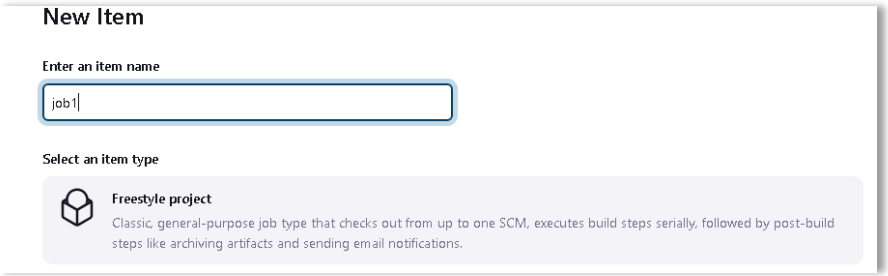





15- Create a new job by clicking [**+ New Item**]



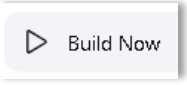

16- Choose a name for this job

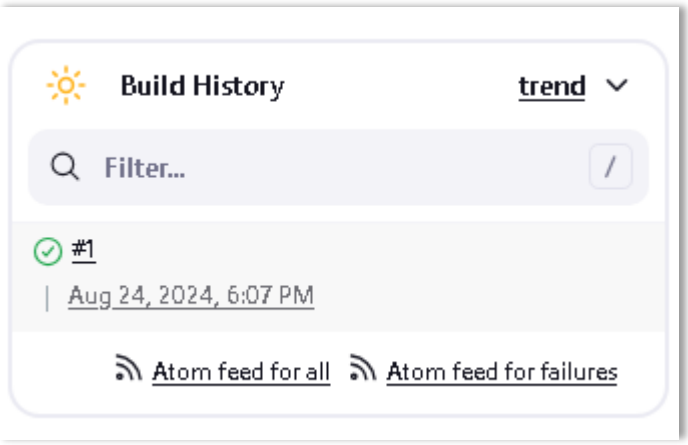


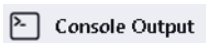

17- Scroll down and find the Buil Step section and then select these options:

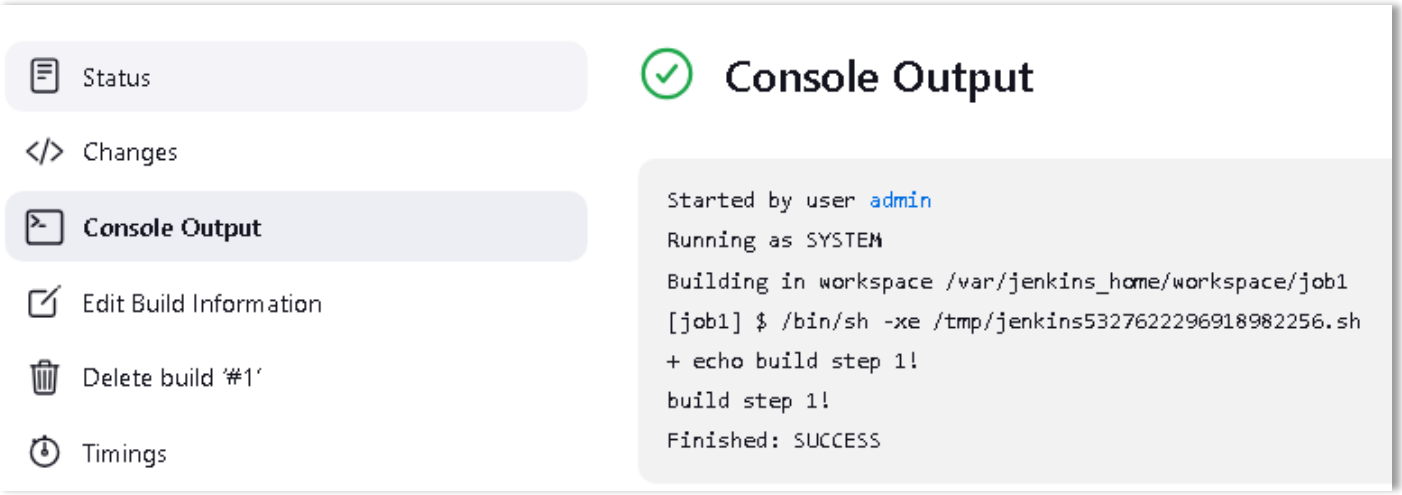


We will not deploy an application, only a simple script to get to know this tool.

18- Click **Save** and then 



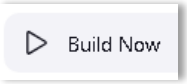

19- Click on #1 (build number) and then click 


20- Jenkins provides many environmental variables. We will have a look at a few. View these by clicking on the 

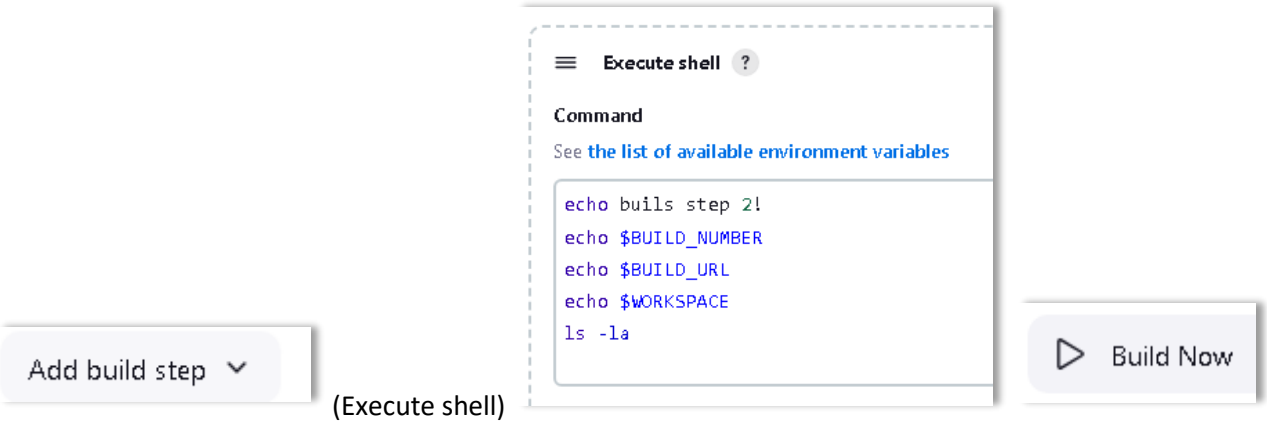
link.

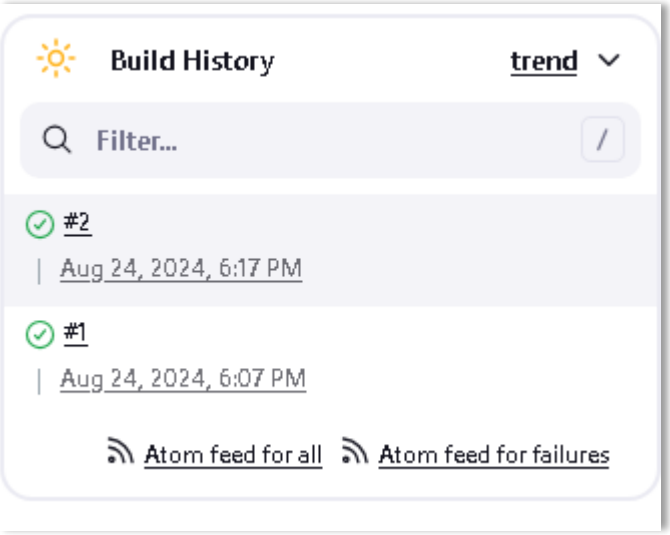
21- Click on **job1** title and then select the configure option


22- Click 

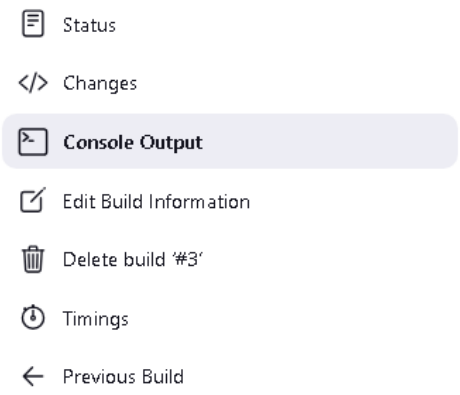

23- View the Console log and note the BUILD_ID value.

24- Modify Job1 by adding a few more lines

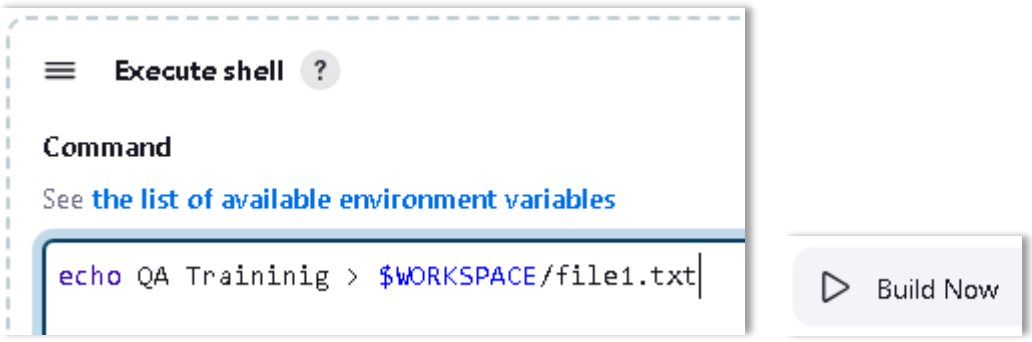


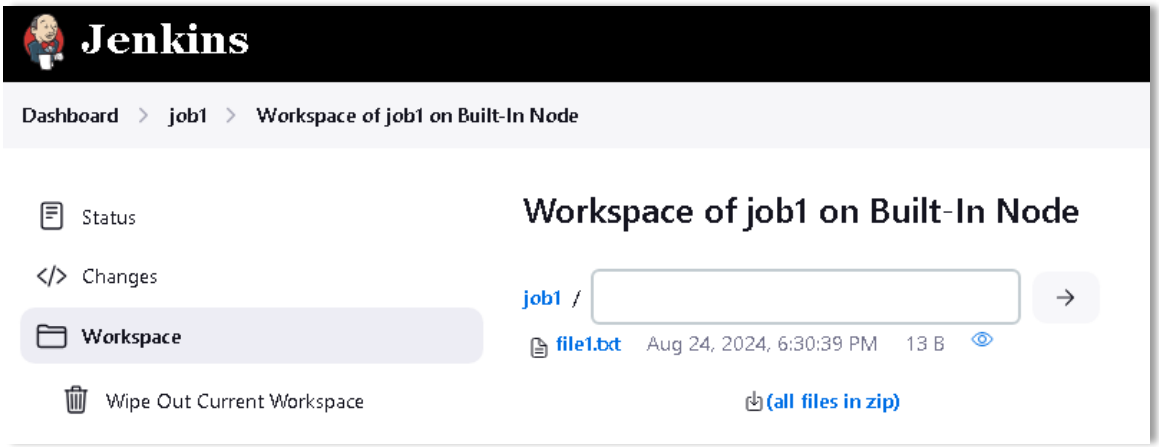

25- View the console log




26- Add another step to the build to execute a shell command to reference Jenkin's Workspace which is a directory on the Jenkins server where the files related to a specific job are stored during the build process. The following command create a file called file.txt with content of "QA Training".




27- Lokk for the Job 1's Workspace menu and display the content of file.txt




Congratulations, you have successfully created a job using Jenkins and explored it's various IDE options. Please continue to **Part 2** below.

# Part 2- Triggers

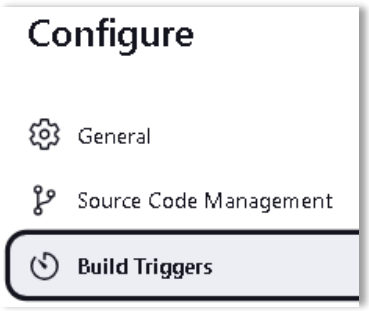
## Objectives

In this part you will create a Jenkin **trigger**, and explore other forms of triggers in other labs.

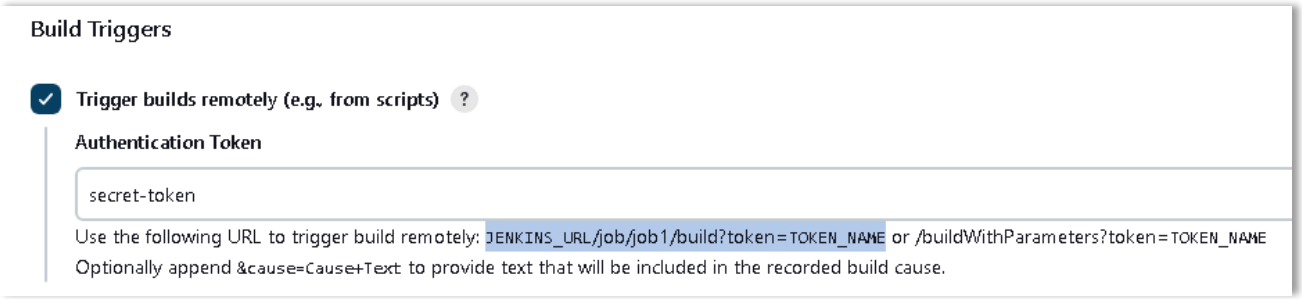
**Trigger** is an event or action that initiates the execution of a job or pipeline (we will explore pipelines later).

## Create a Remote build trigger

1- Configure Job1 and find the Buil Triggers section

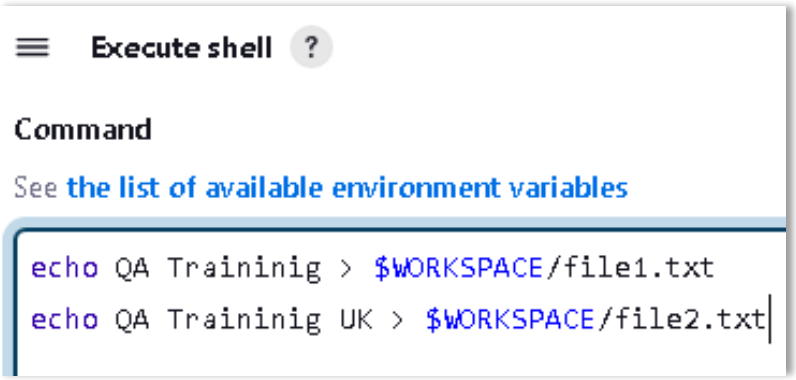



2- Create a token for invoking and API end point for triggering a build (any secret token word will do)

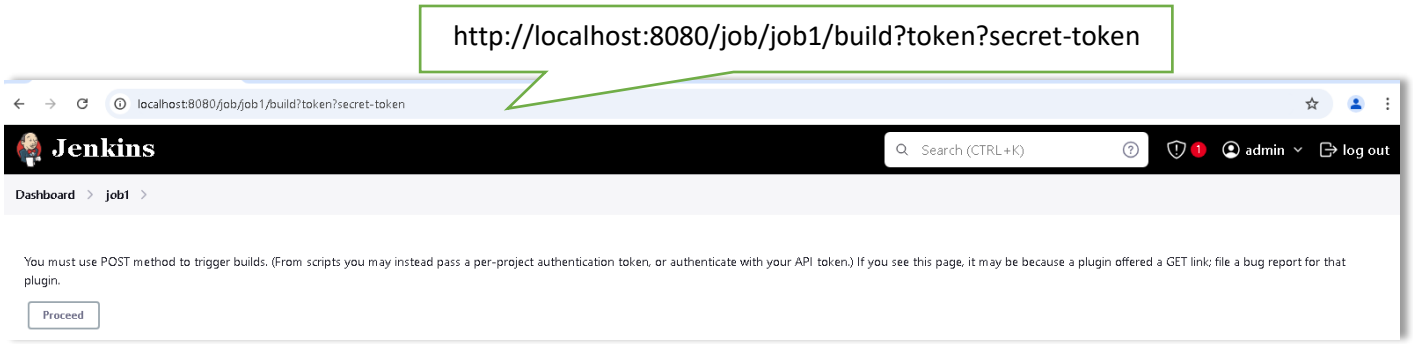




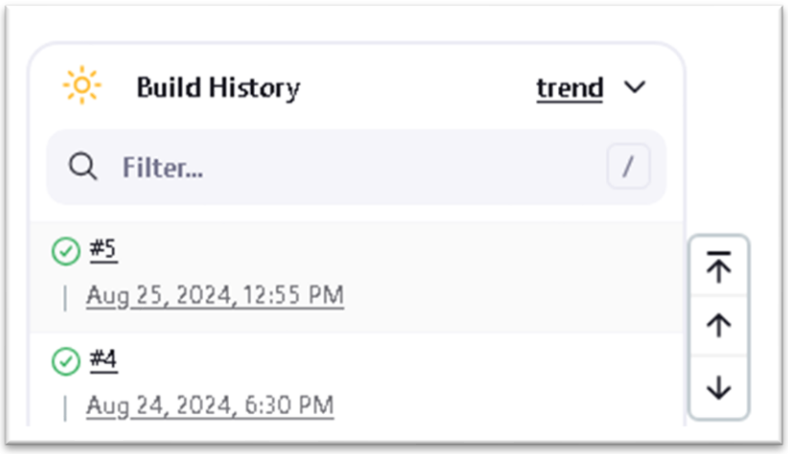
3- Make a change to the last build and then save.

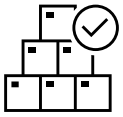


4- Type the following text in a browser and click the Proceed button to trigger the build.
Please note, this will result in a blank screen and will only shows errors if there are any.




5- As mentioned, the screen will go blank but a new build is triggered (please wait a moment until it does)



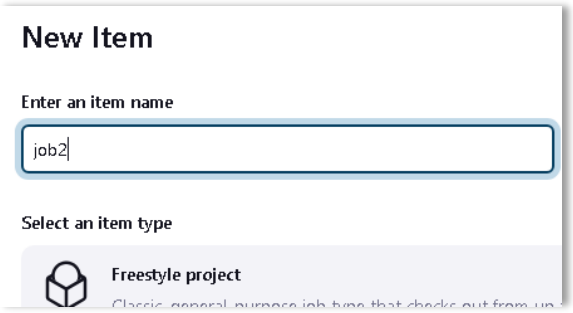
Congratulations, you have successfully created a Jenkins trigger. This is an important concept and you will explore other forms of Jenkin's Triggers in other labs.
Please continue to **Part 3** below.

# Part 3 - Chaining project builds

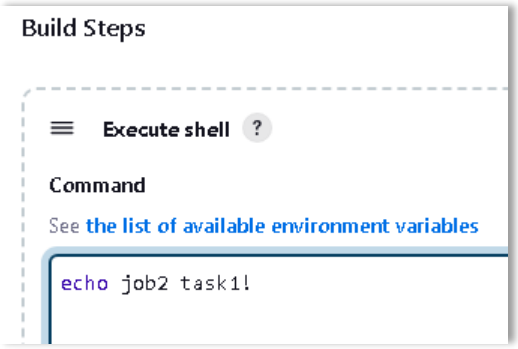
## Objectives

In this part you will chain 2 or more builds together.
Build chaining in Jenkins automatically triggers one or more jobs after another job completes. This enables multi-step automation pipelines, where one job's output becomes the next job's input.

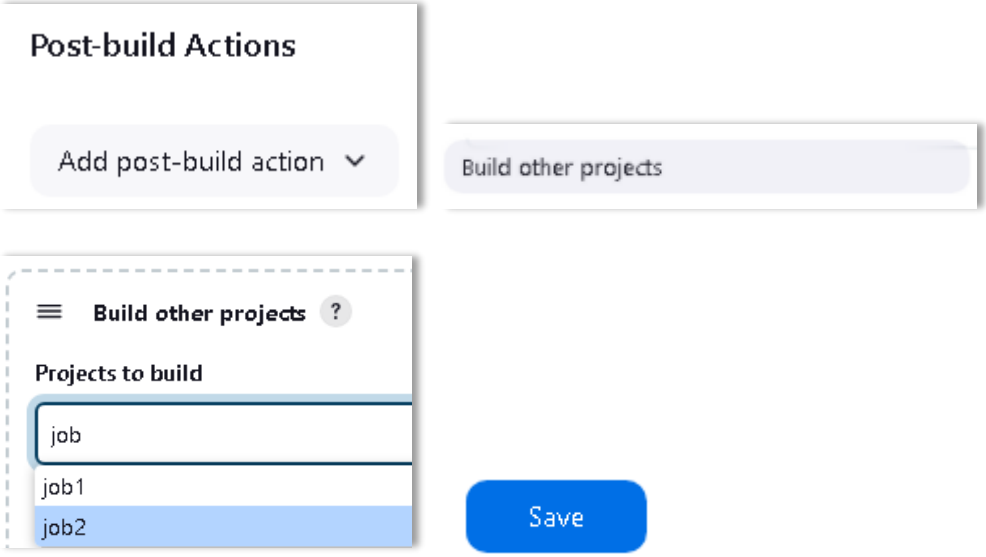
1- Create a new Job called **job2**

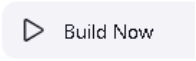



2- Assign a build step like

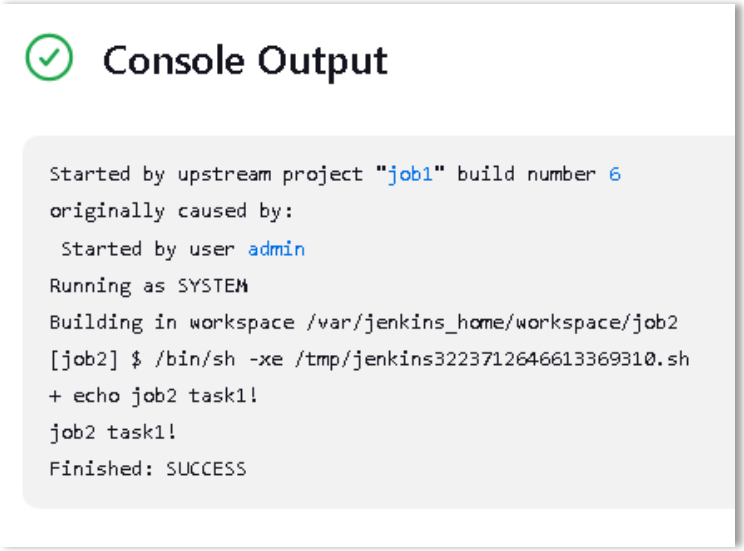



3- Configure Job1's post-build action to trigger building Job2

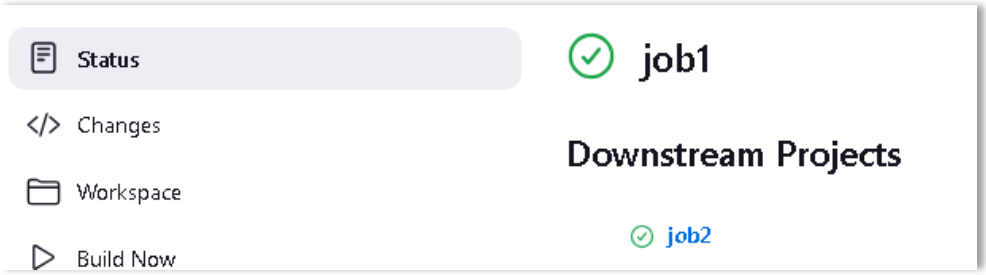


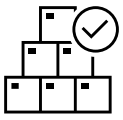
4- Build Job1 

and note that both jobs get built
View the console output of Job1 and Job2 for proof




5- View Job1's status for the Downstream project (Job2)



Congratulations, you have successfully created a Jenkins build chain.
Please continue to Lab2 to explore building and deploying a Maven app stored on GIT.