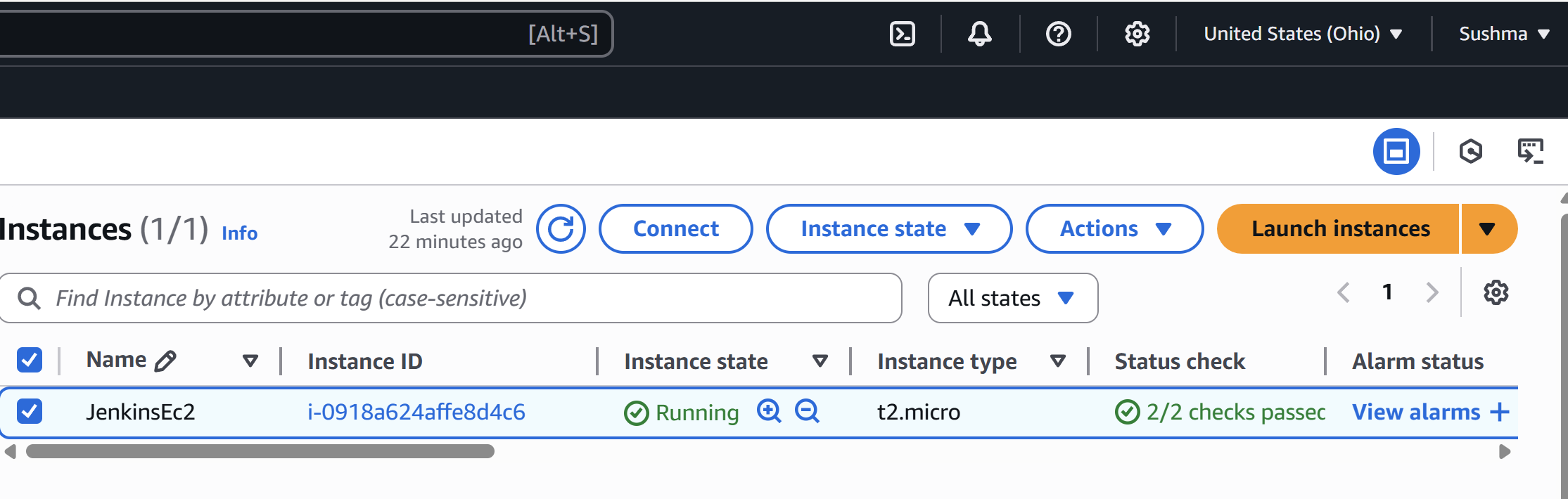
**Jenkins Task 1**

1) Install jenkins and run jenkins on port number 8081.

Step 1: Creat an EC2 instance with name “JenkinsEc2”



Step 2: Download Jenkins Repo using below command

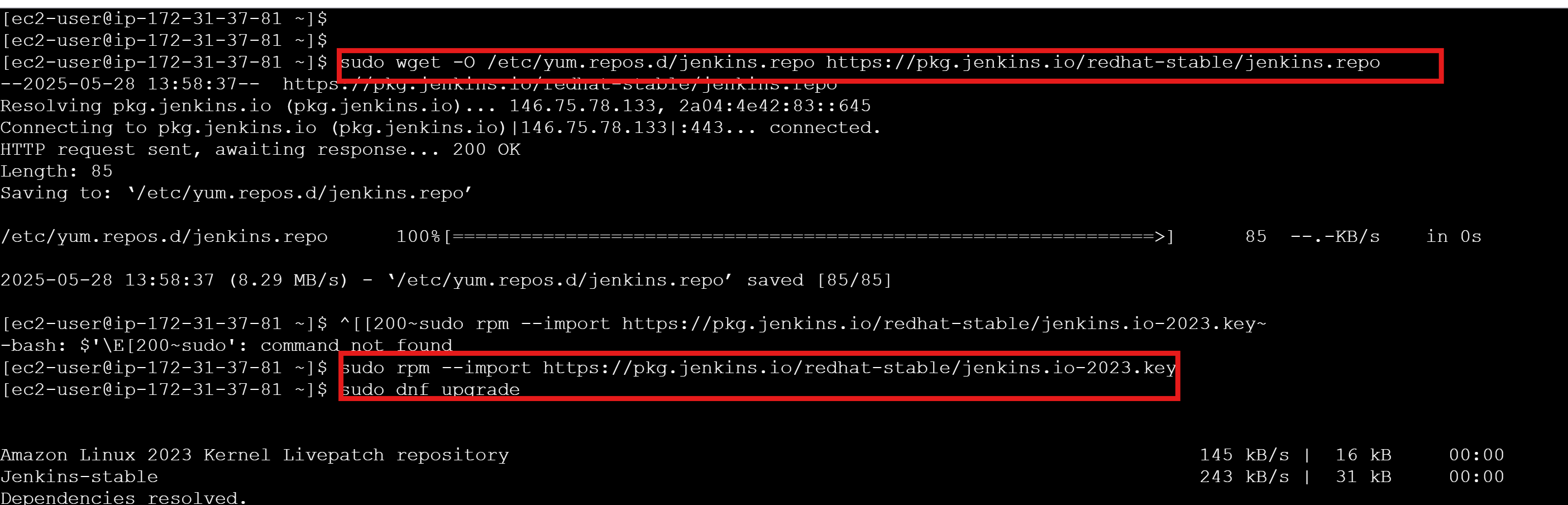
sudo wget -O /etc/yum.repos.d/jenkins.repo <https://pkg.jenkins.io/redhat-stable/jenkins.repo>

Step 3: Import Jenkin keys

sudo rpm --import <https://pkg.jenkins.io/redhat-stable/jenkins.io-2023.key>

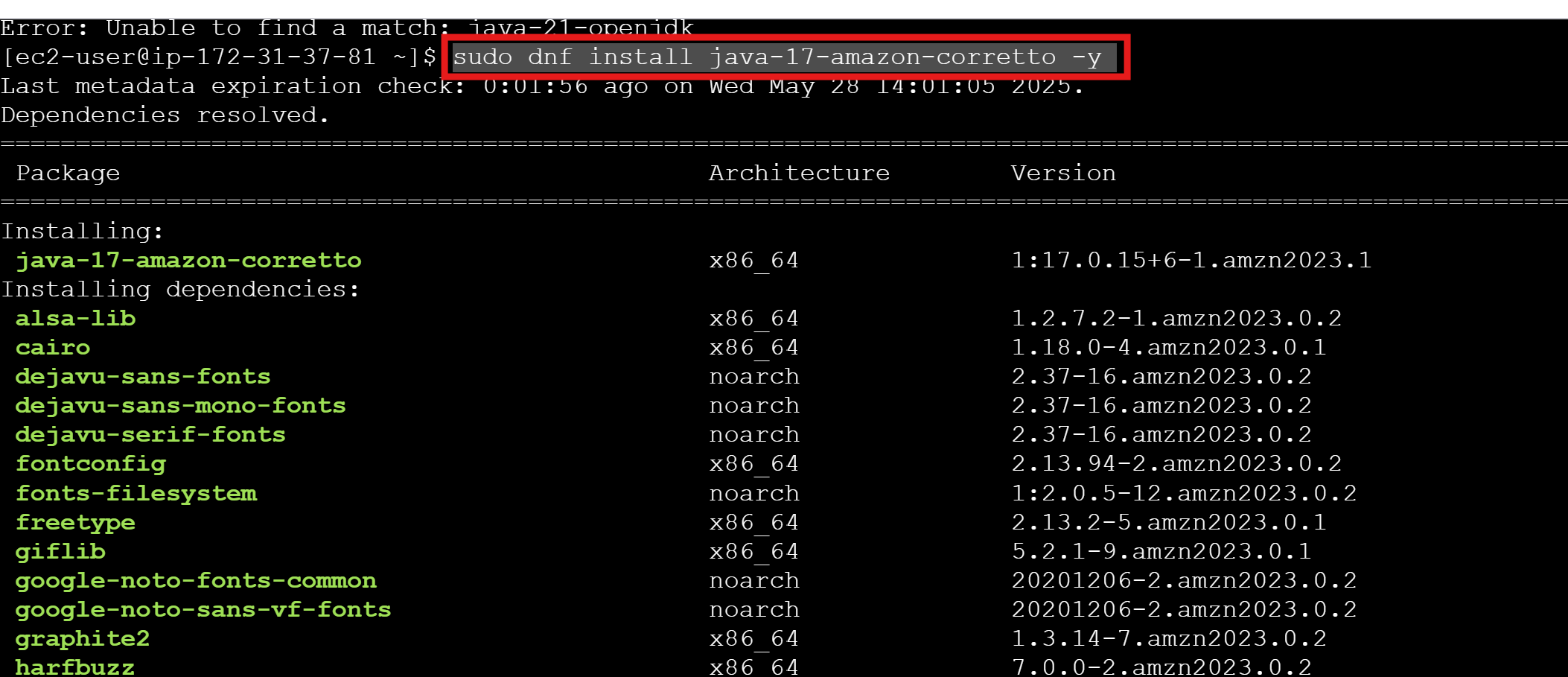
Step 4: Update the Ec2

**Sudo dnf upgrade**

****

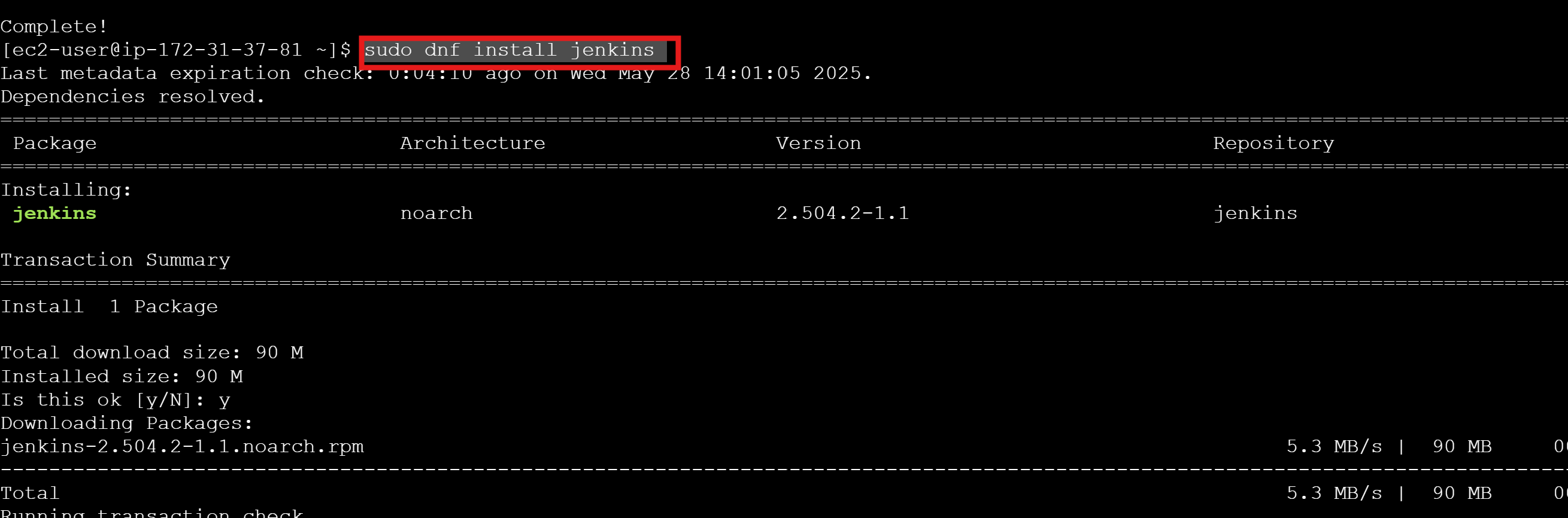
Step 5: Install the dependency of Jenkin (JAVA)

**sudo dnf install java-17-amazon-corretto -y**

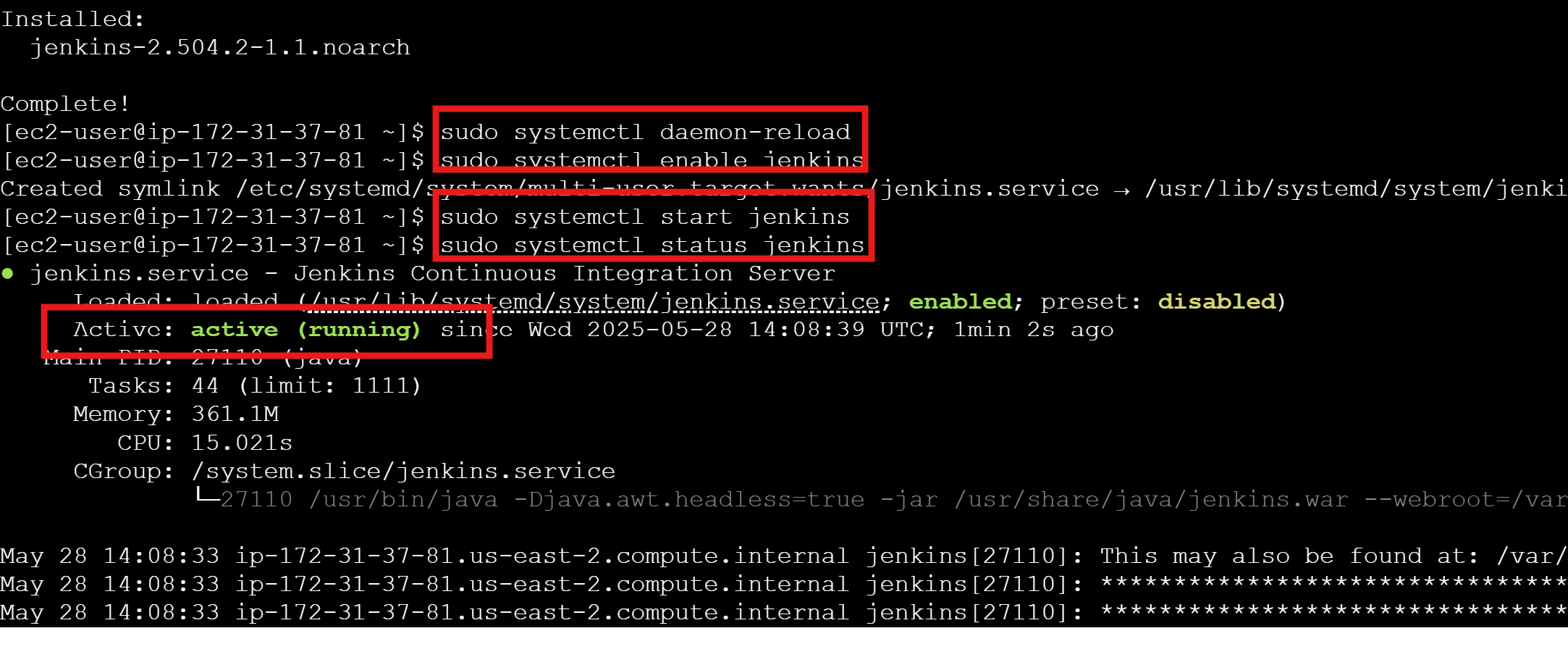
****

Step 6: Install Jenkins

**sudo dnf install jenkins**

****

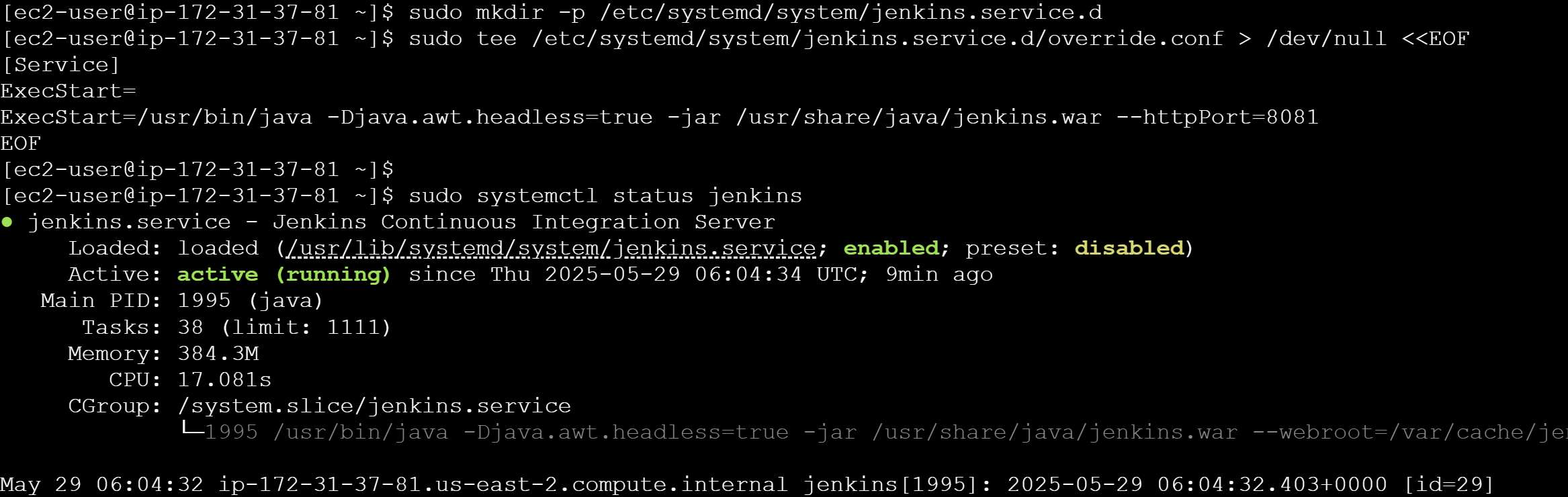
Step 7: Run the jenkin and check the status of Jenkins



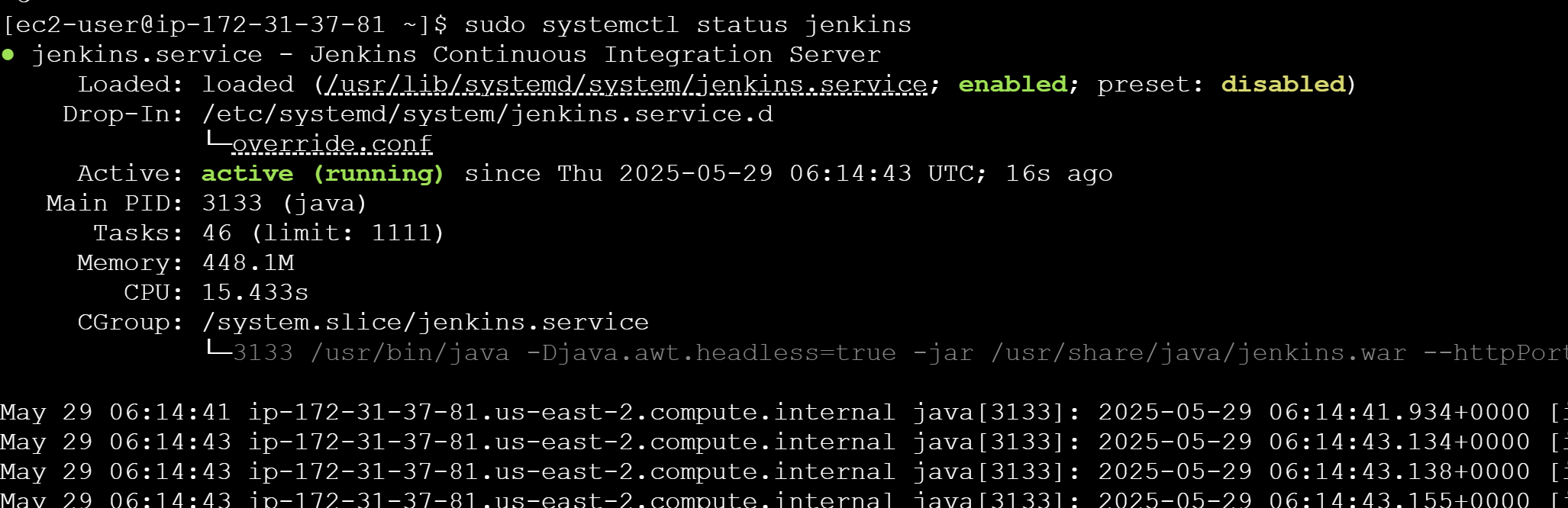
Step 8: To change Port no

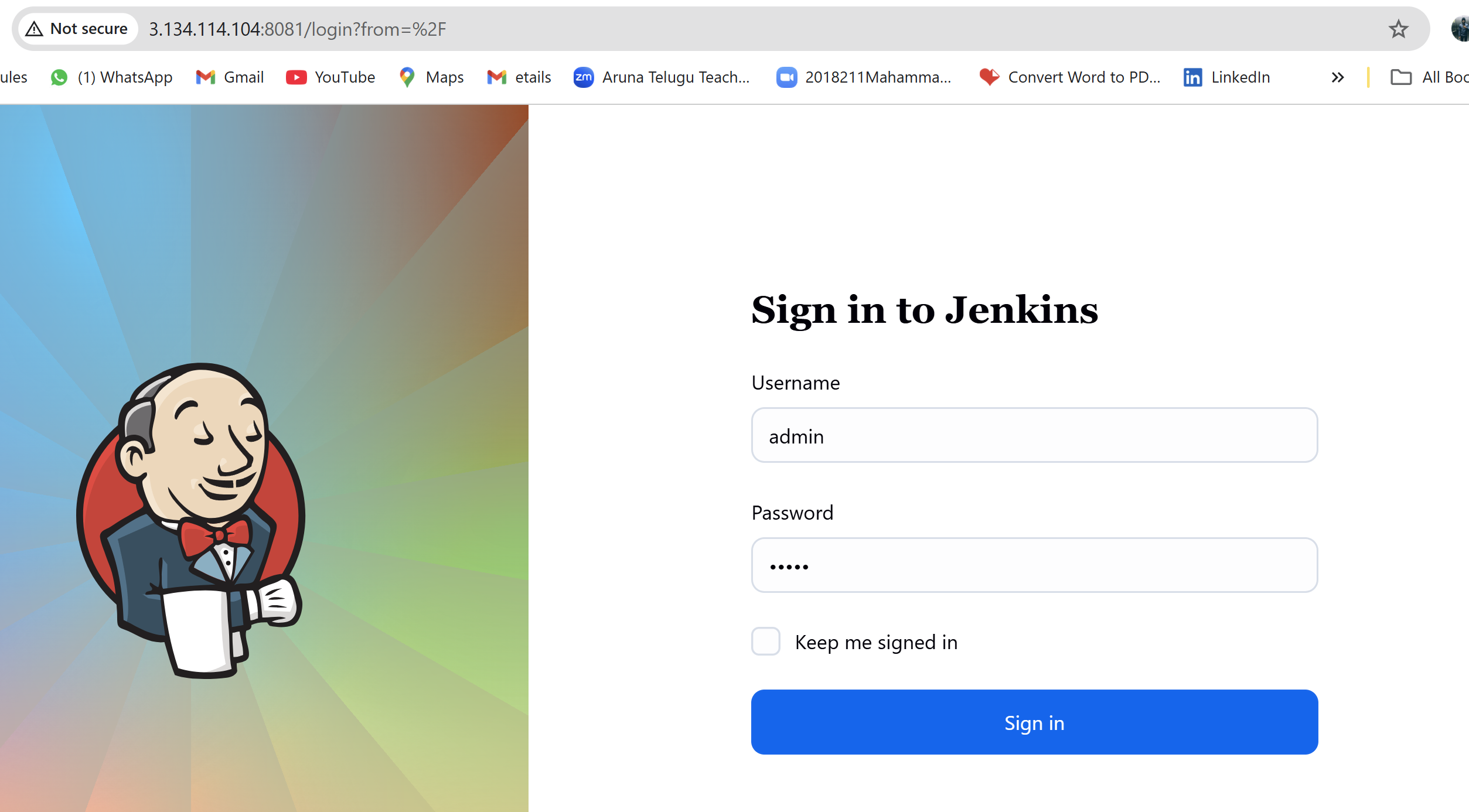
Go to configure the port 8080 to 8081 create a directory   
**sudo mkdir -p /etc/systemd/system/jenkins.service.d**

**sudo tee** /etc/systemd/system/jenkins.service.d/override.conf > /dev/null <<EOF  
[Service]  
ExecStart=  
ExecStart=/usr/bin/java -Djava.awt.headless=true -jar /usr/share/java/jenkins.war --httpPort=8081  
EOF

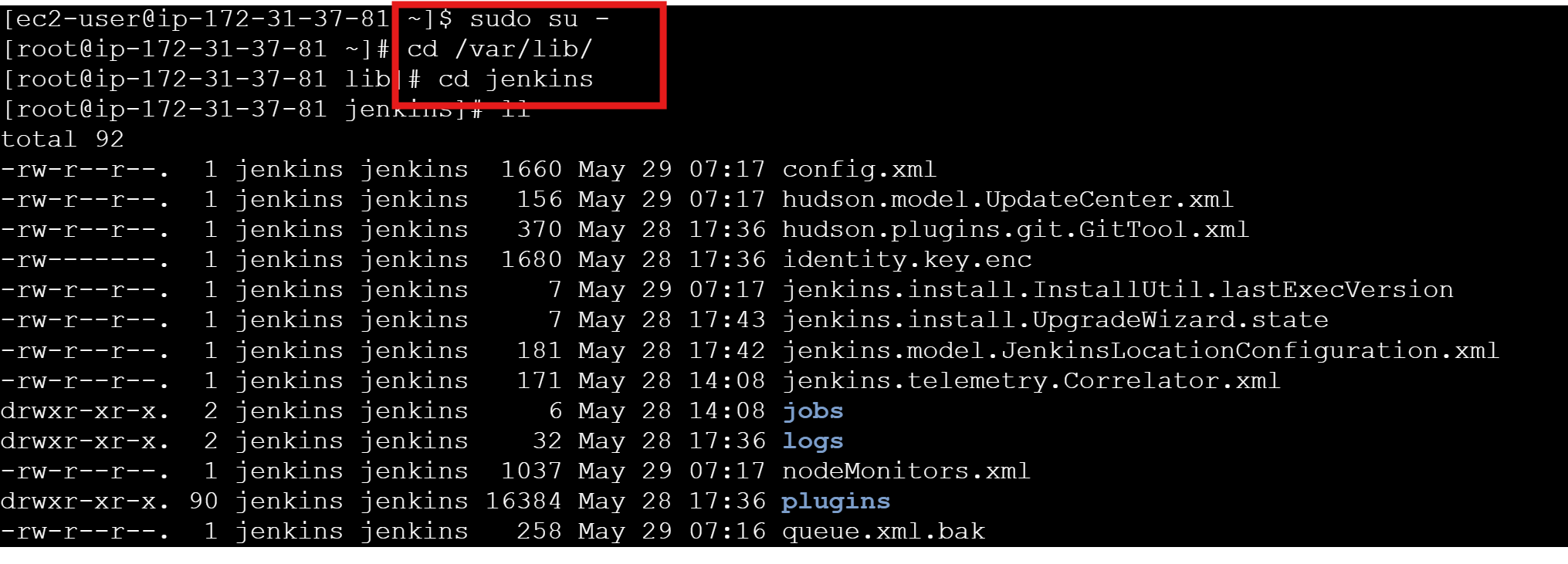


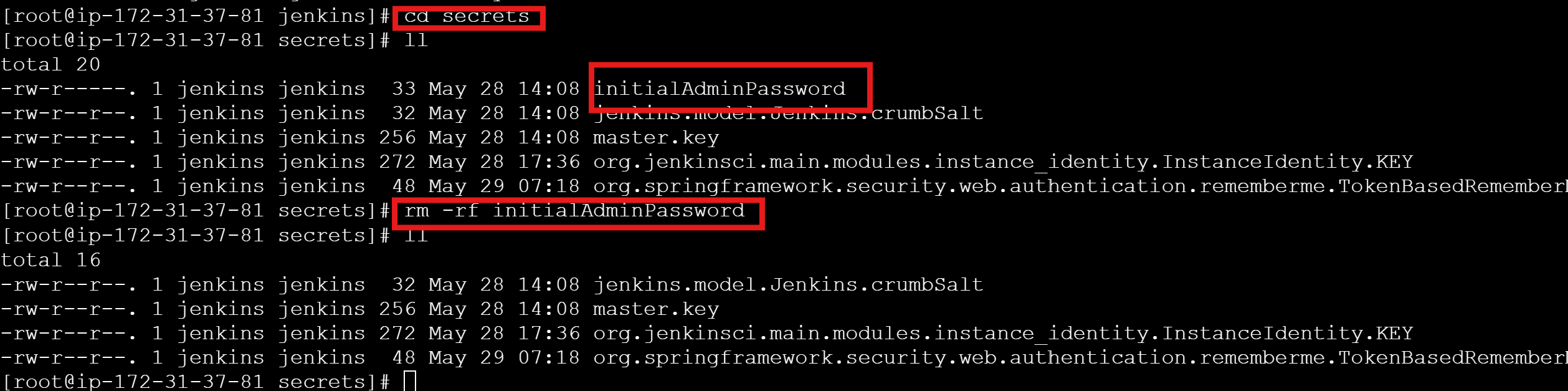
* Then restart the Jenkins and check the status

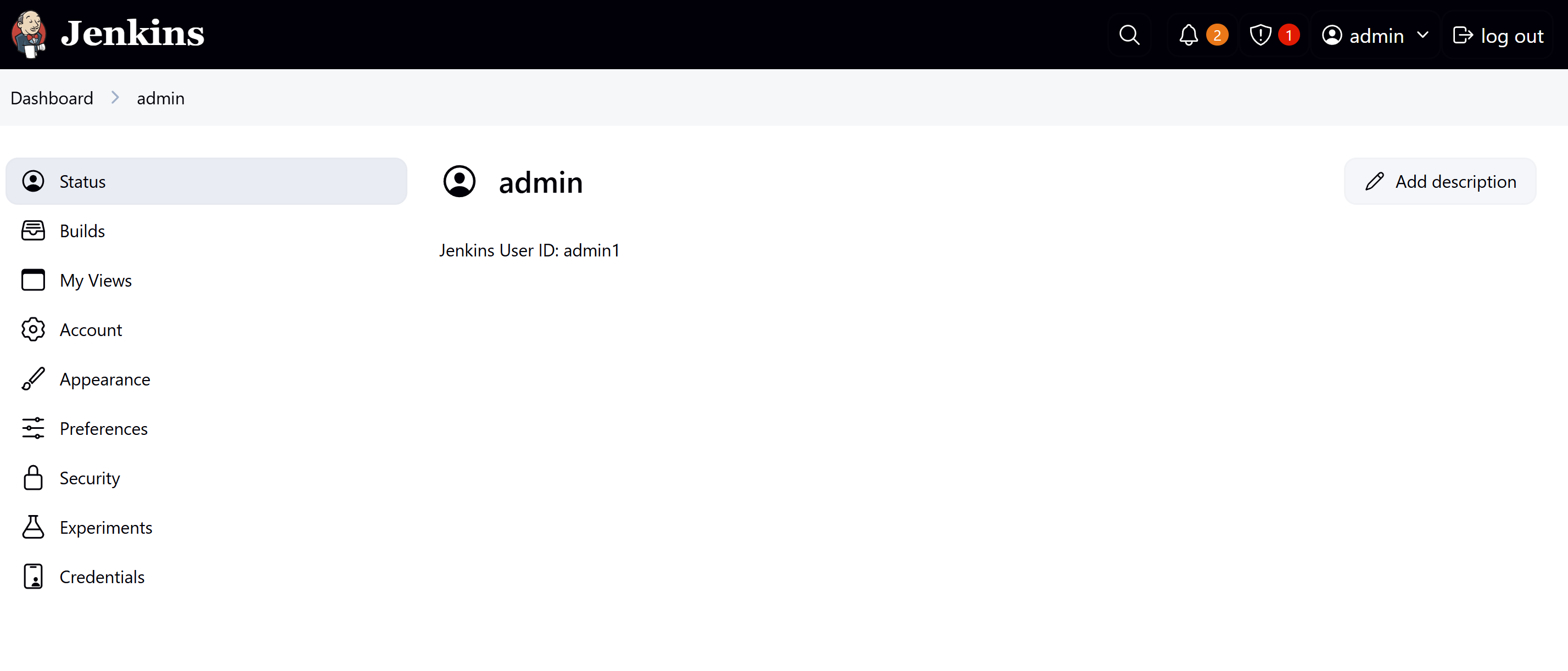




2) Secure Jenkins server







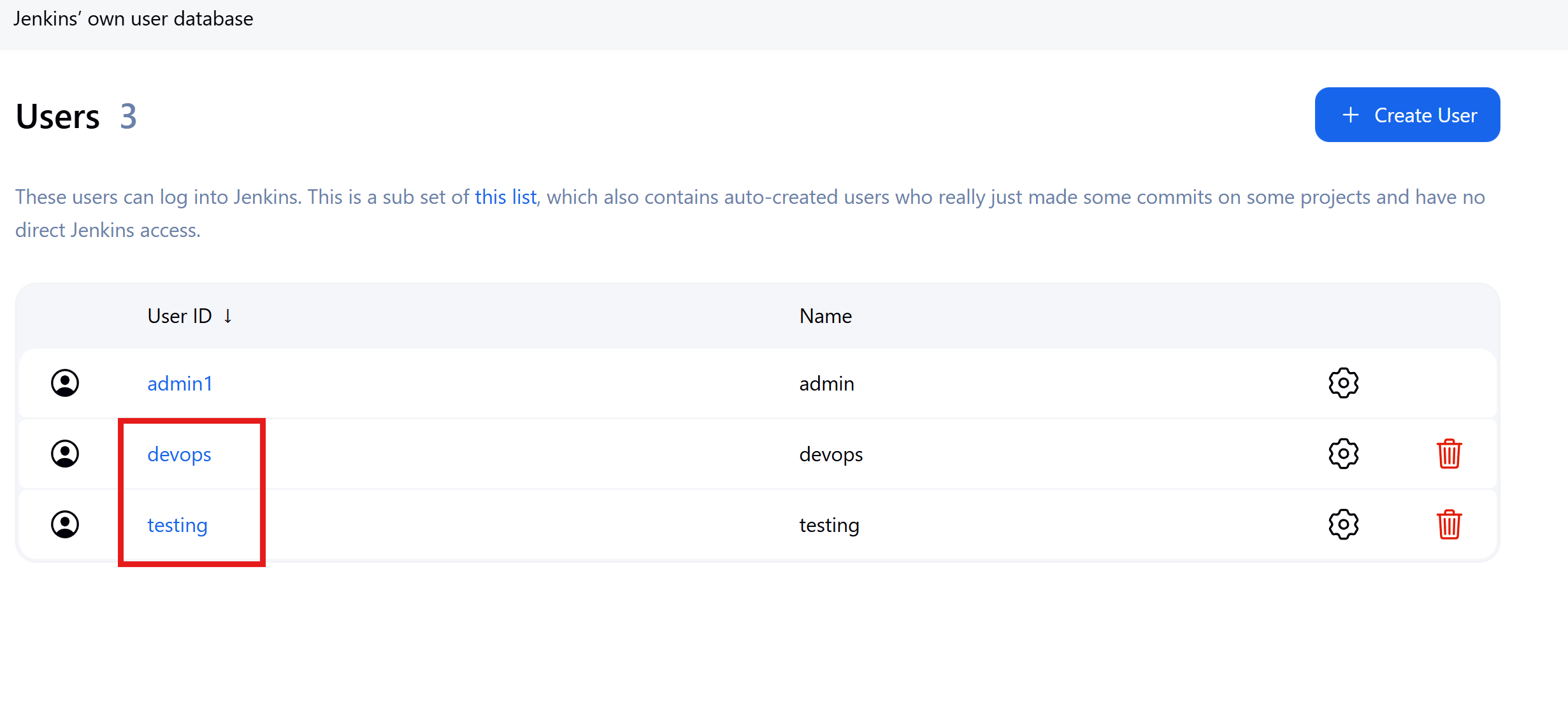
3) Create users called Devops, Testing in Jenkins with Limited access.

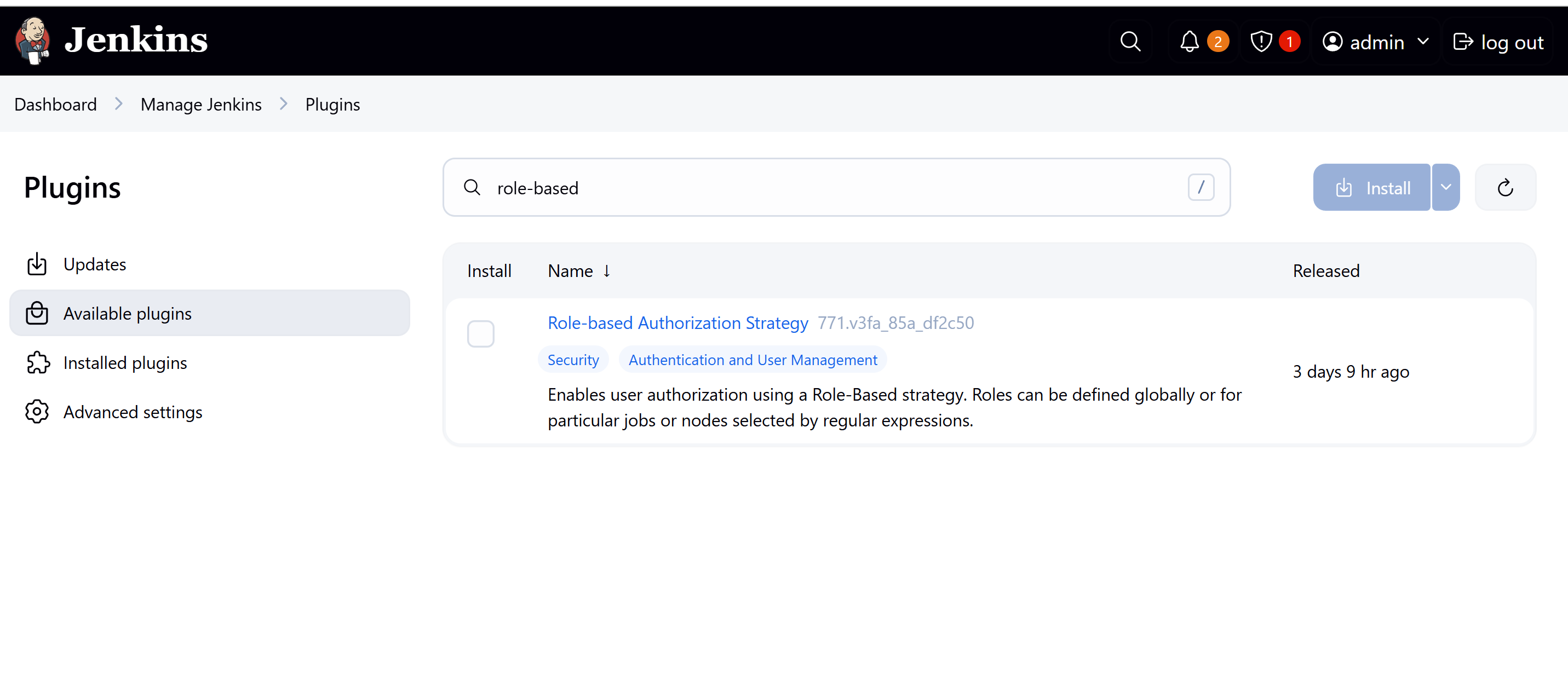
Step 1: Create the Users

* Go to: Manage Jenkins → Manage Users
* Click **Create User**
* Add:
  + - **Username**: Devops
    - **Password**: any strong password
    - **Full Name**: DevOps Team
    - **Email**: (optional)
    - Click **Create User**

Step 2: Install “Role-Based Authorization Strategy” Plugin

* Go to: Manage Jenkins → Manage Plugins → **Available**
* Search for Role-based Authorization Strategy
* Install and restart Jenkins





Step 3: Enable Role-Based Access

* + - Go to: Manage Jenkins → Configure Global Security
    - Under **Authorization**, choose:

**Role-Based Strategy**

* + - Click Save

Step 4: Create Roles

Go to: Manage Jenkins → Manage and Assign Roles → Manage Roles

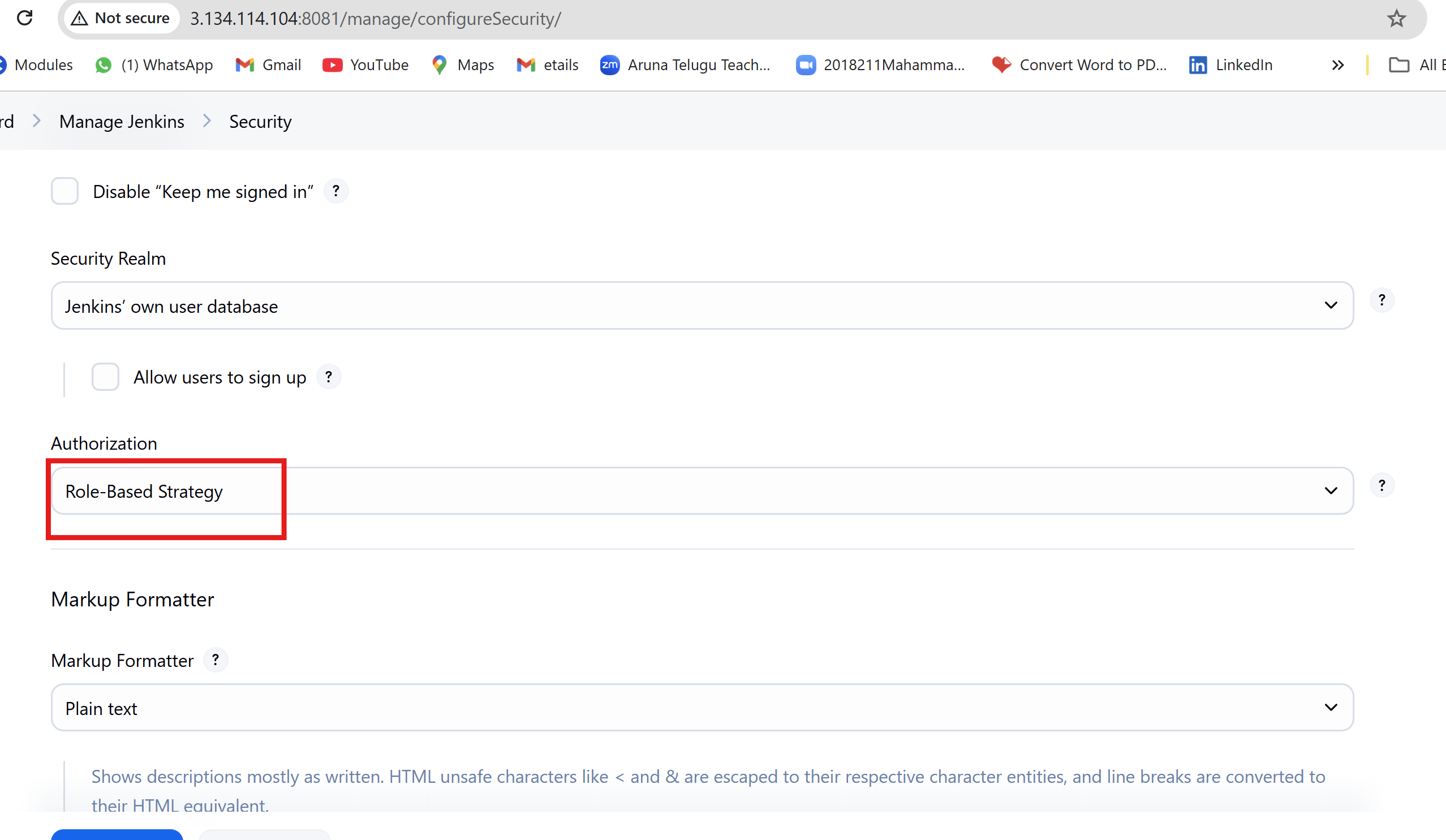
Create Roles: Devops, Testing

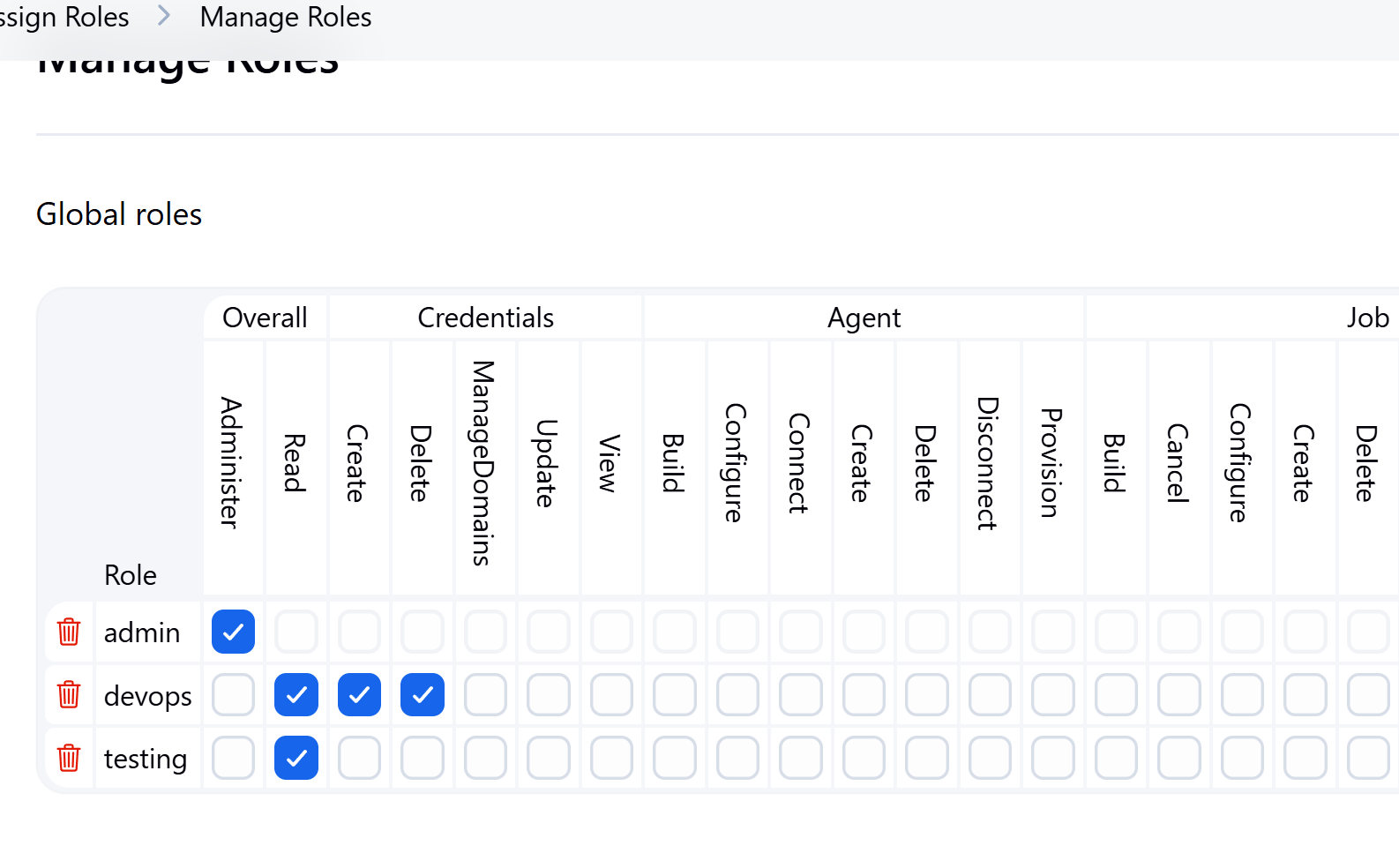
Step 5: Assign Roles to Users

Go to: Manage Jenkins → Manage and Assign Roles → Assign Roles

* Under **Global roles**, enter usernames (Devops, Testing)
* Assign:
  + - Devops → check Devops role
    - Testing → check Testing role
    - save







4) Configure labels and restrict the jobs to execute based on label only.

Step 1: **Go to Nodes**

* Click on **“Manage Jenkins”** from the left menu
* Click on **“Nodes”**

**Select the Node**

* You’ll see a list like:
  + Built-In Node (master)
  + Any agent you’ve added
* Click on the node where you want to assign a label (e.g., **Built-In Node**)

**Configure the Node**

* Click on **“Configure”** (left side)
* Find the **“Labels”** text box
* devops

A screenshot of a computer

AI-generated content may be incorrect.

Step 2: **Go to Your Job**

* From the **Dashboard**, click on the job
* If you don’t have a job, create one

**Open Job Configuration**

* Click on **“Configure”**

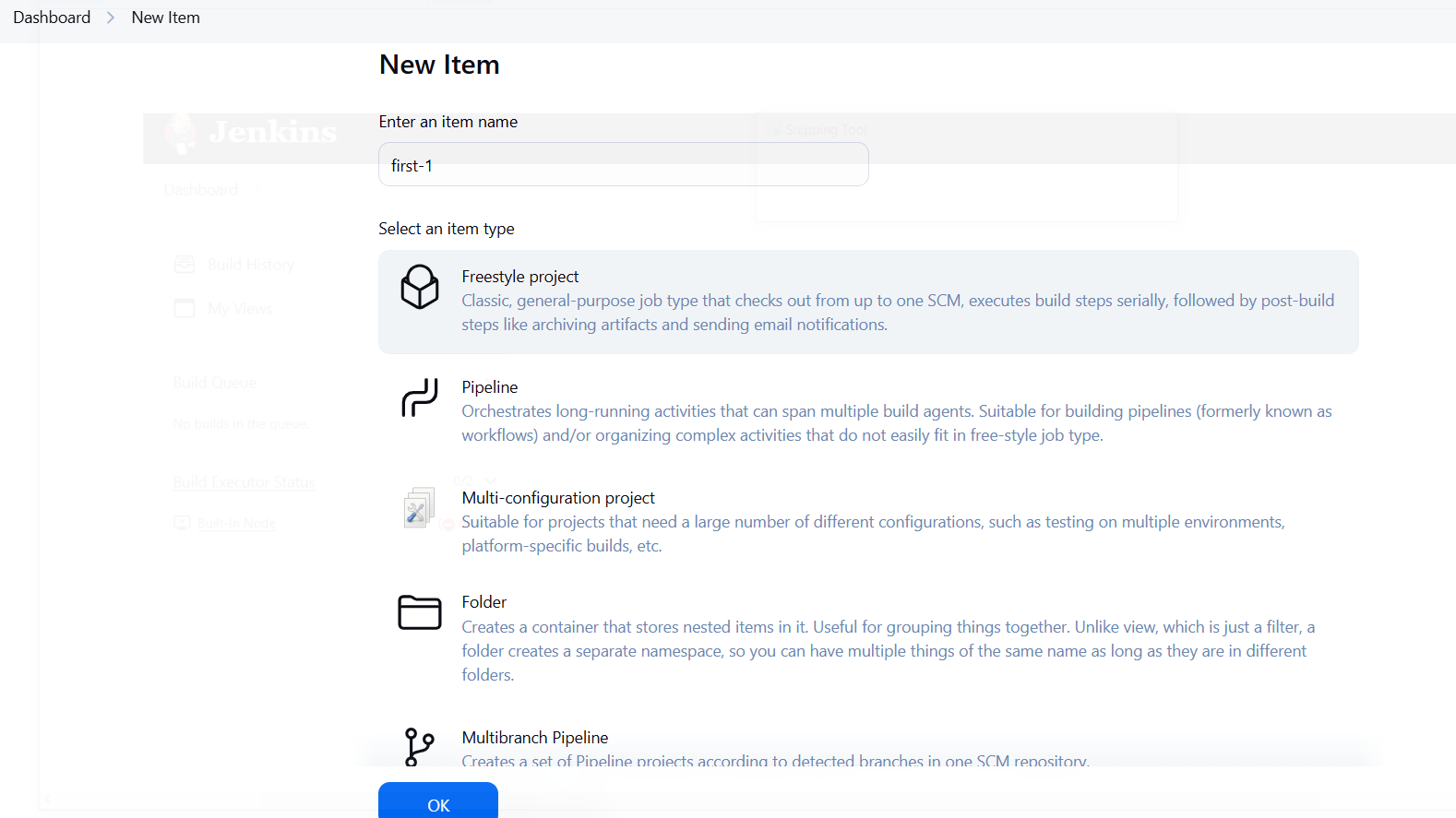
**Set Label Restriction**

* In the **General** section:

LABEL

Devops

Save the Job



Step 3: Verify

* Go to the job
* Click **Build Now**
* If an agent with the devops label is online and idle, the job will run there

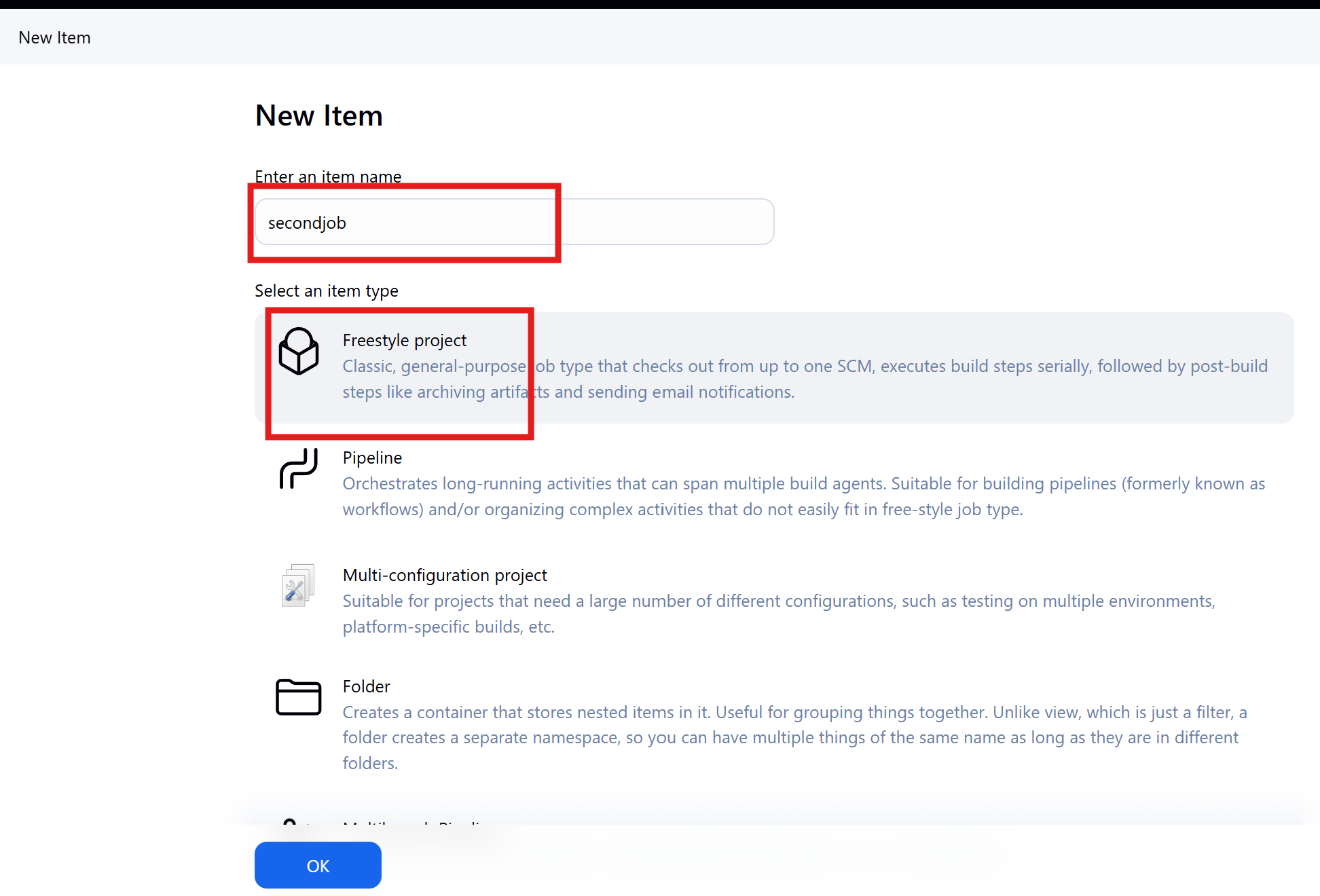


5) Create Three sample jobs using the below URL.

<https://github.com/betawins/Techie_horizon_Login_app.git>

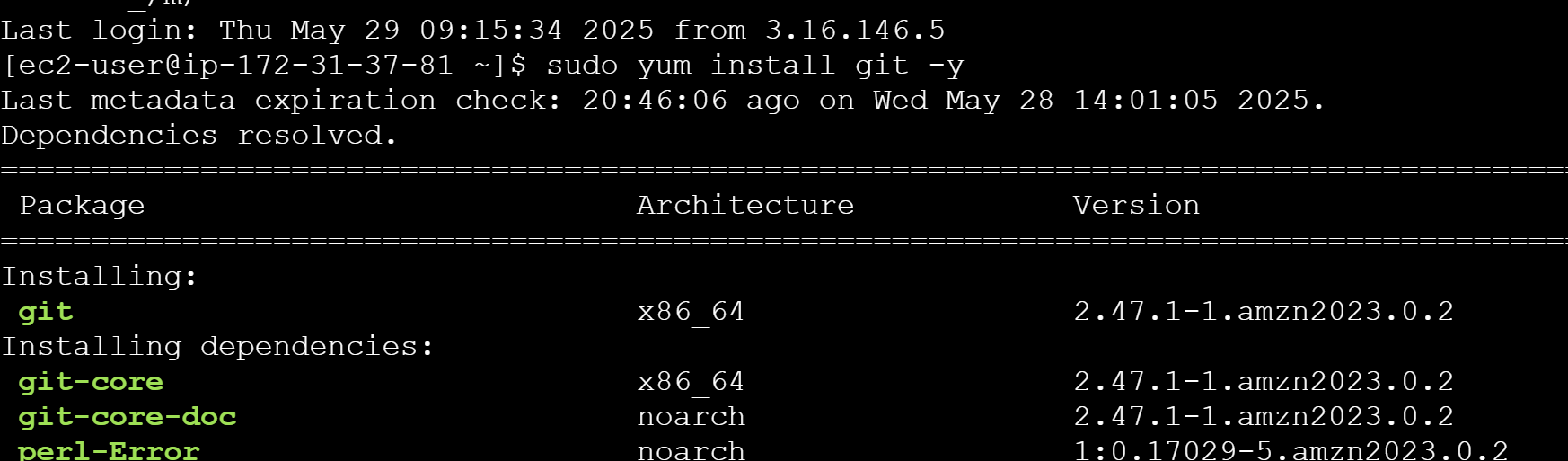
Step 1: **Create the First Job**

1. Click **“New Item”**
2. Enter name: second02
3. Select: **Freestyle project**
4. Click **OK**



Step 2: Install git in server

**Sudo yum install git -y**

****

Step 3 **:** Configure the Job

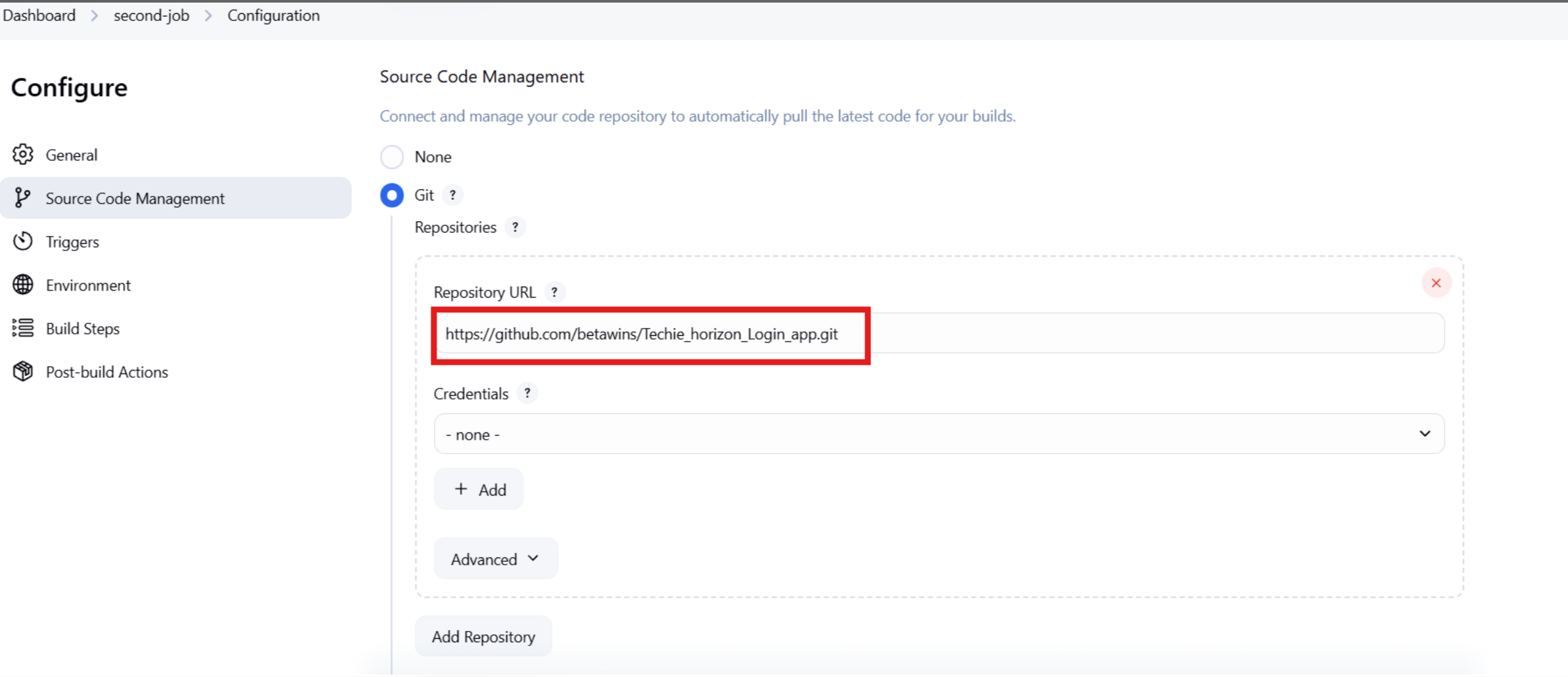
Under General**:**

* Leave defaults

**Under Source Code Management:**

1. Select **Git**

<https://github.com/betawins/Techie_horizon_Login_app.git>



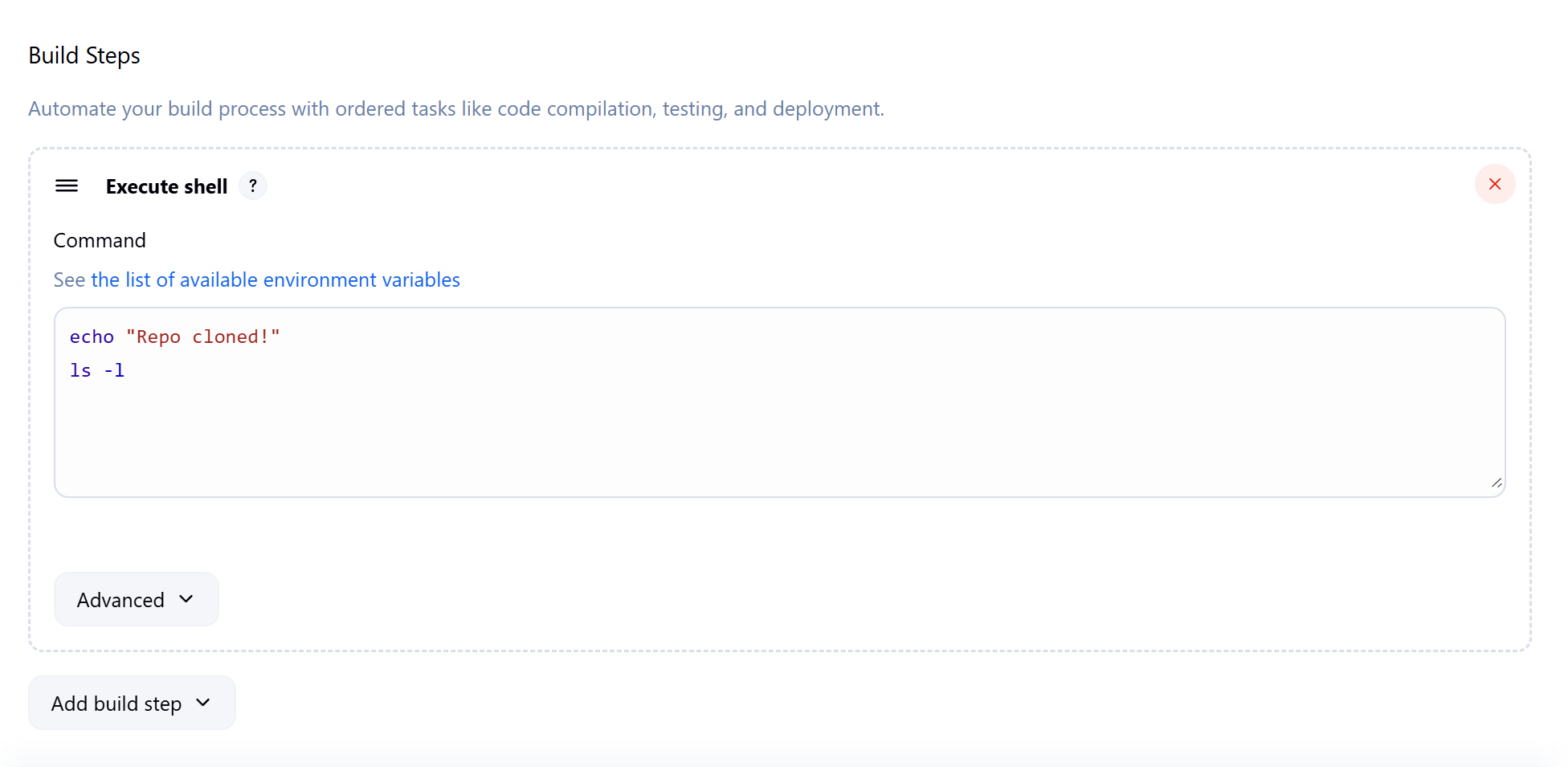
**Under Build:**

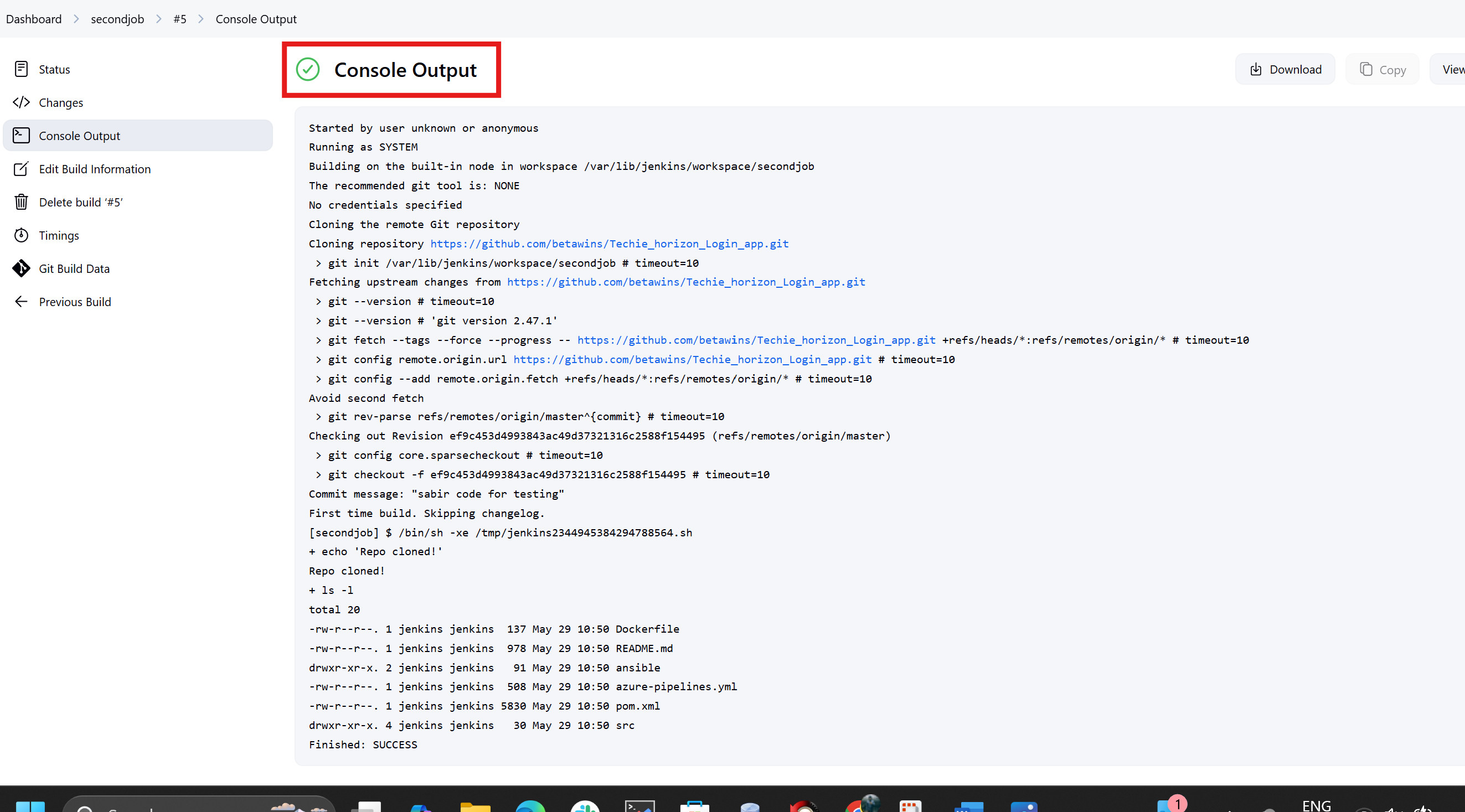
1. Click **Add build step → Execute shell**

echo "Repo cloned!"

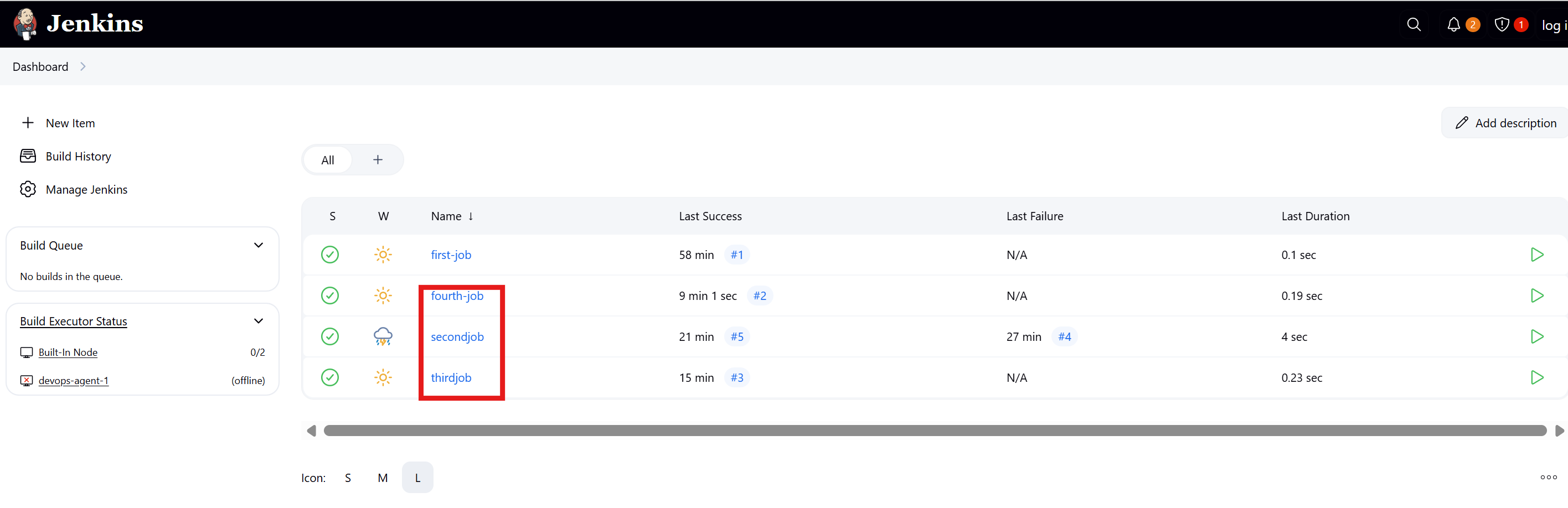
ls -l

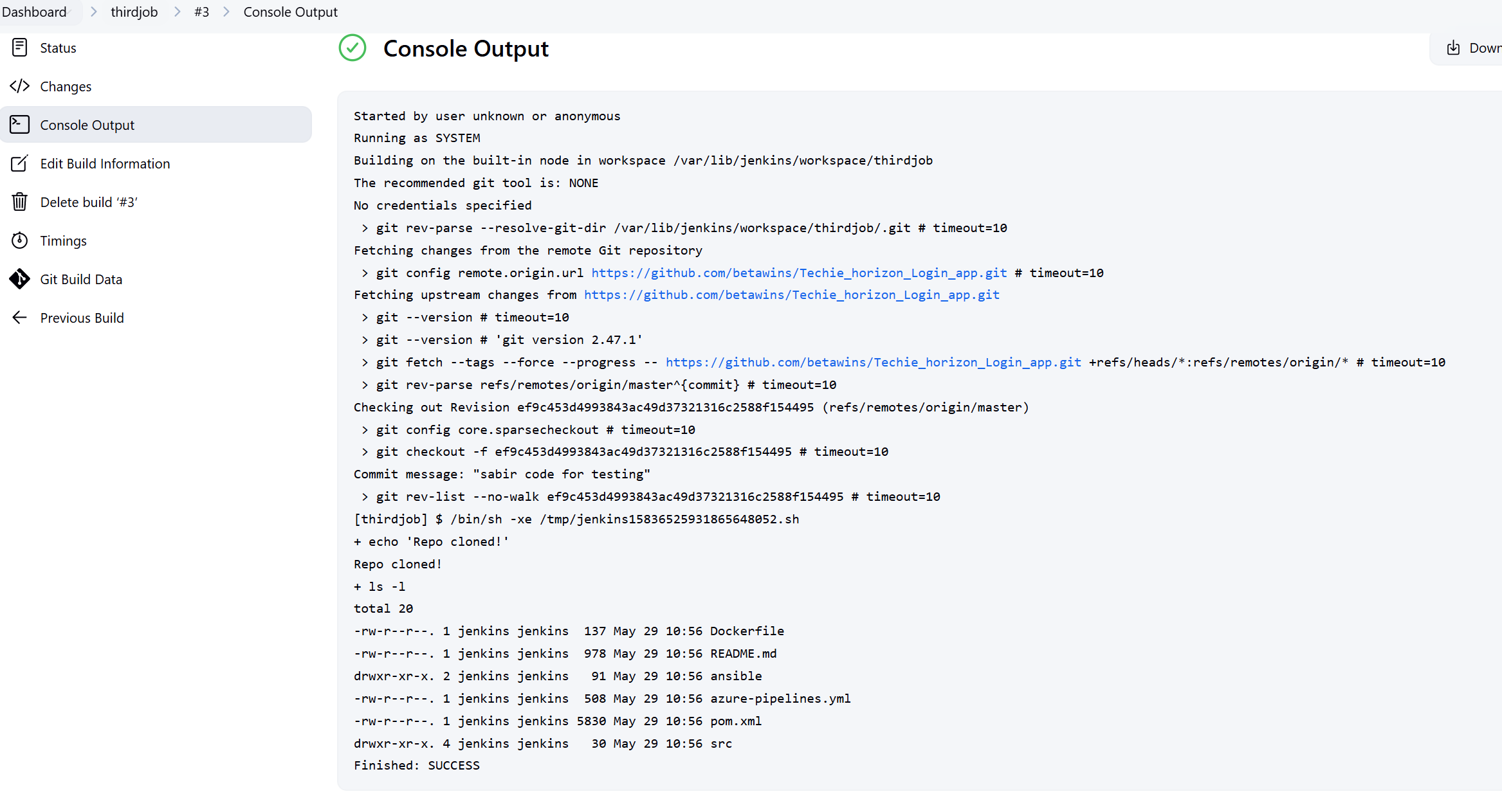
Click Save  
Then Build Now

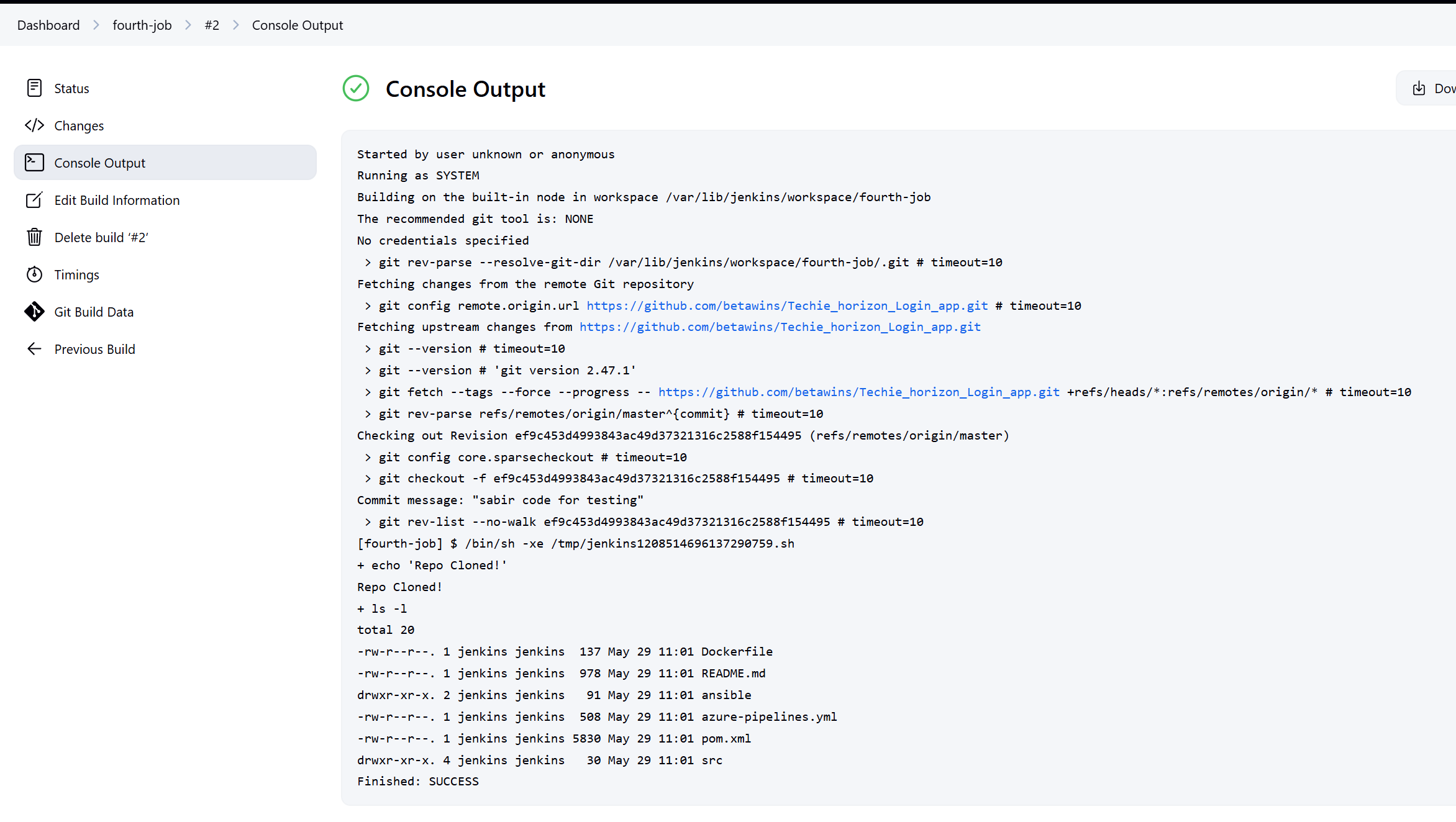
****

****

Step 4: Create more 2 jobs and follow the same.



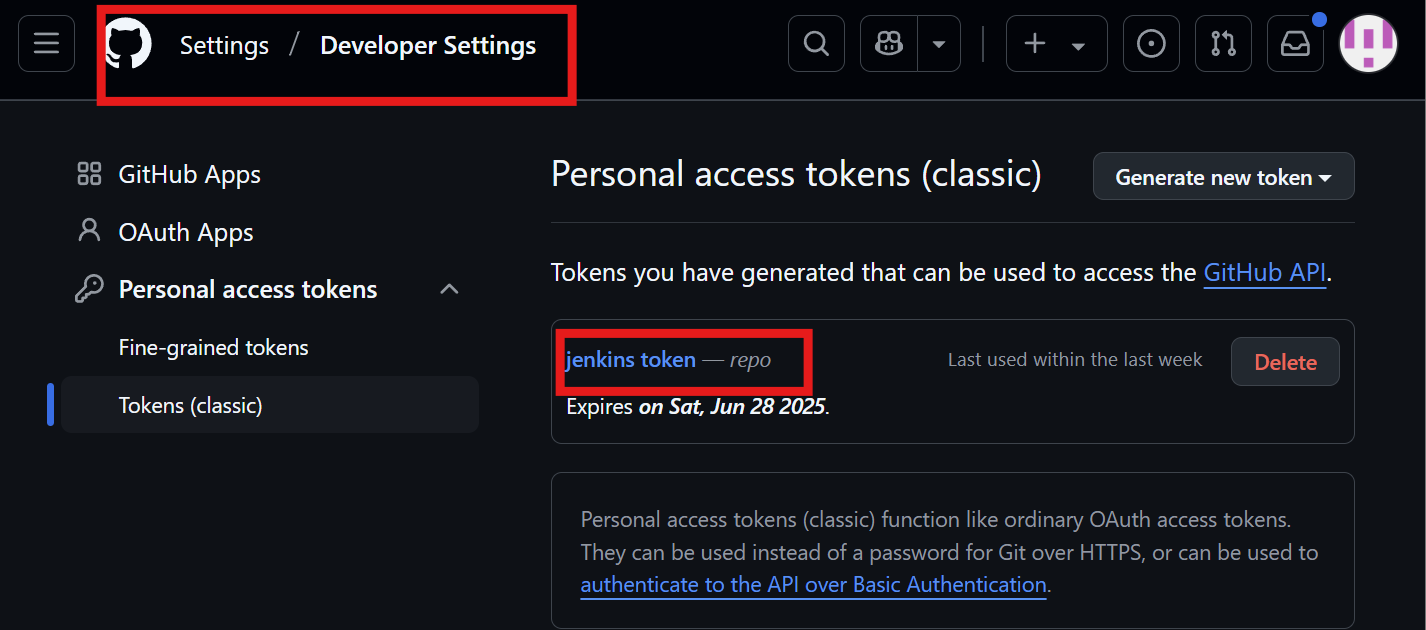
****

****

6) Create one jenkins job using git hub Private repository.

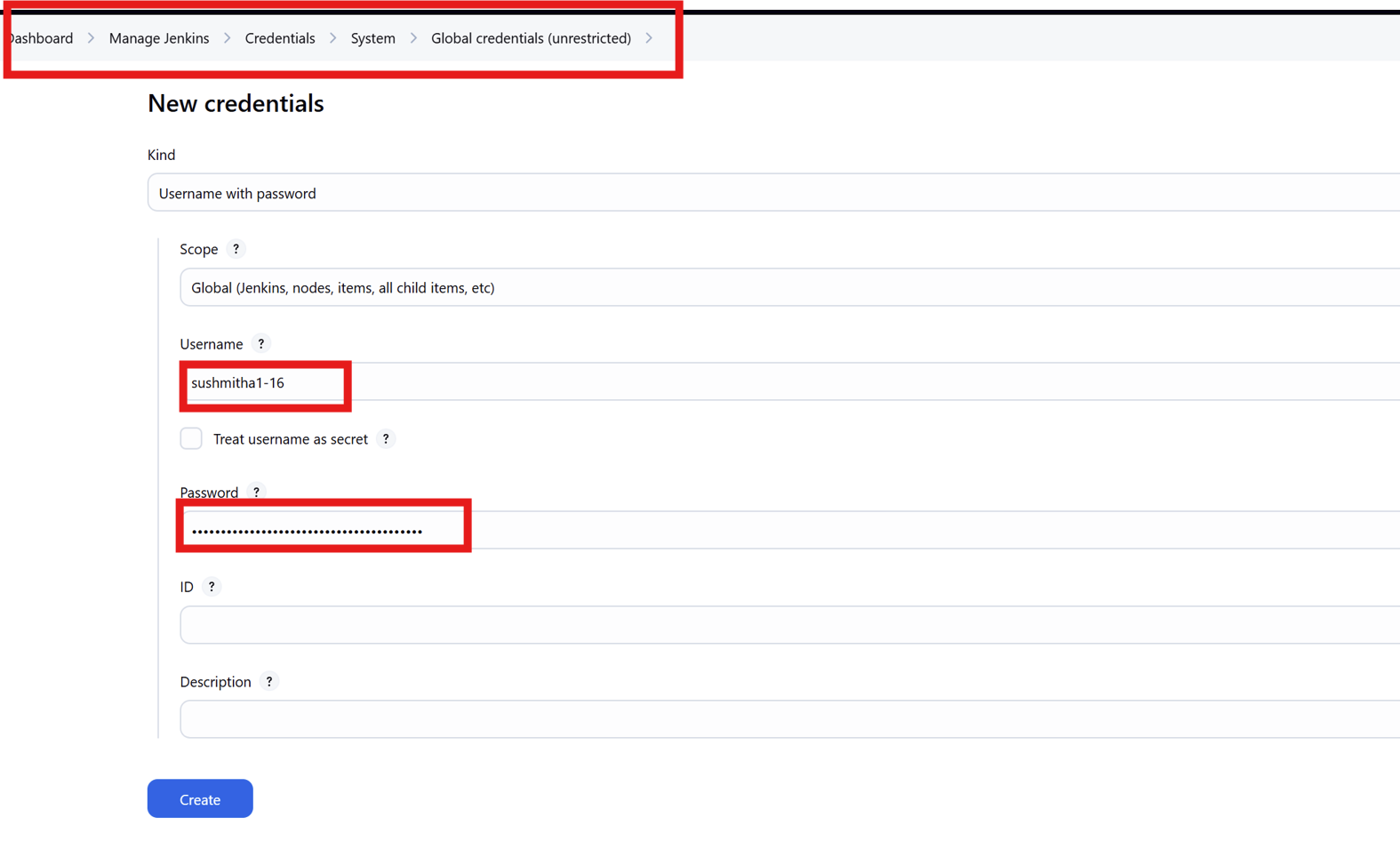
Step1: Create GitHub Personal Access Token

* Go to <https://github.com/settings/tokens>.
* Click **“Generate new token (classic)”**.
* Select:
  + repo (Full control of private repositories)
* Generate the token and **copy it** immediately.



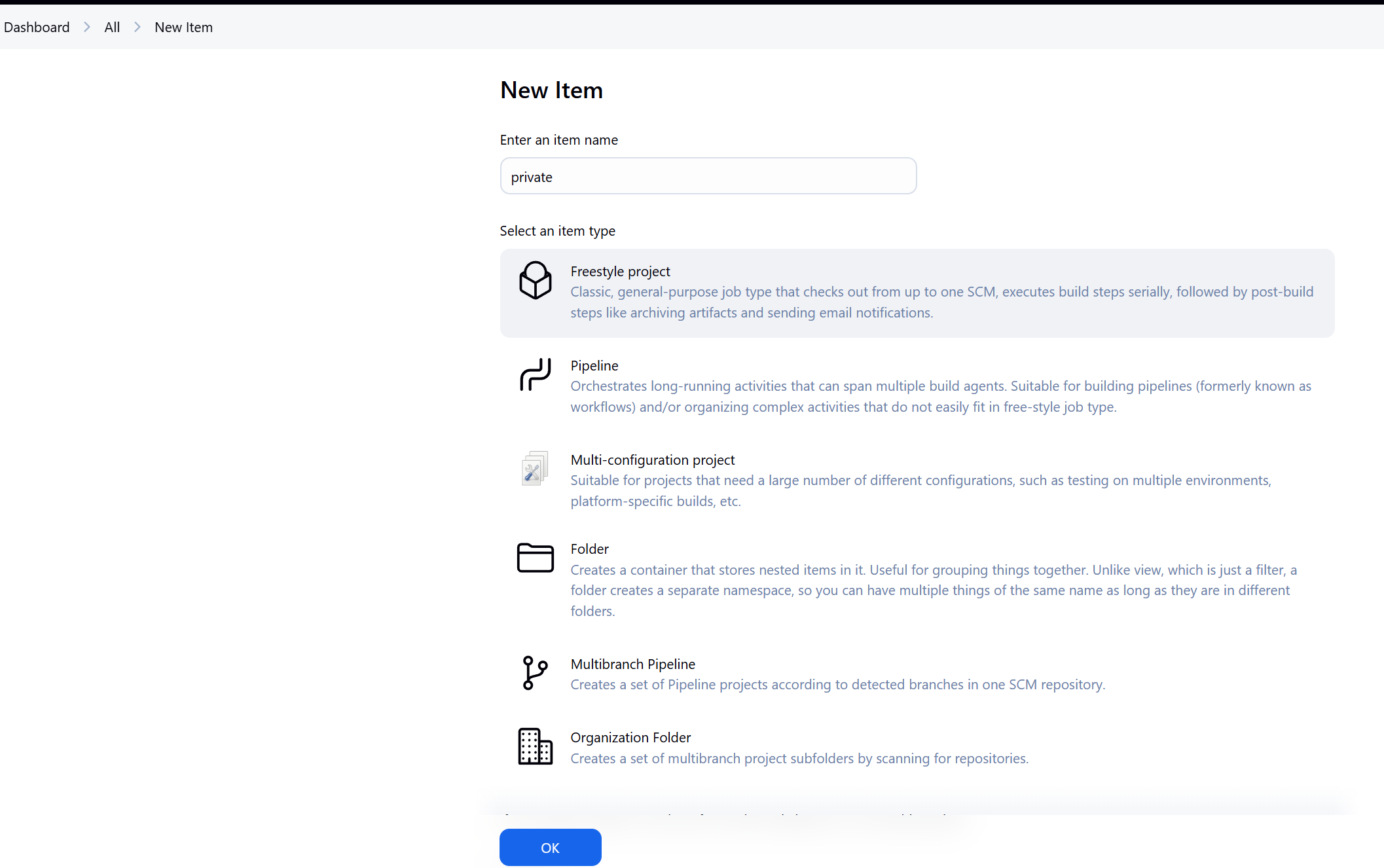
Step 2: Add GitHub PAT to Jenkins Credentials

* Go to **Jenkins Dashboard** → **Manage Jenkins** → **Credentials** → (global) → **Add Credentials**.
* Choose:
  + **Kind**: Username with password
  + **Username**: Sushmitha1-16
  + **Password**: *(paste the PAT here)*
  + **ID**: *(Optional, e.g., github-token)*



Step 3: Create a New Job

* Go to Jenkins Dashboard → **New Item**
* Name: PrivateRepo\_Job
* Choose: **Freestyle project**
* Click **OK**



* Under Source Code Management**:**
* Select **Git**
* In Repository URL, paste
* Save and Build



Step 4: verify

* In Jenkins instance run the command below so that we can clone the git hub with Jenkins

git clone <https://Sushmitha1-16: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@github.com/Sushmitha1-16/jenkins.git>

