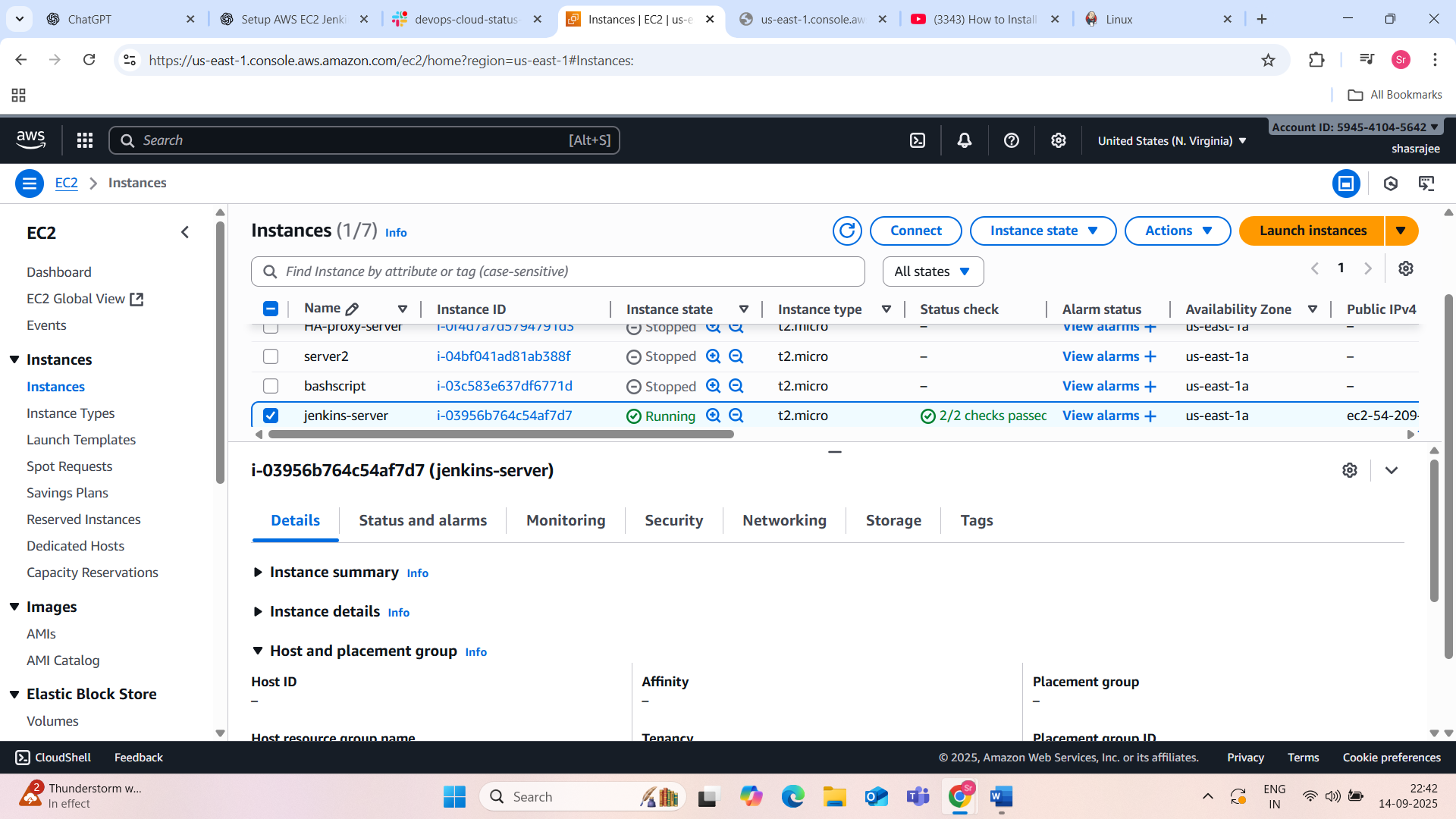
1) Launch one aws ec2 and install jenkins.

2) Setup Apache Tomcat on Ubuntu Virtual Machine

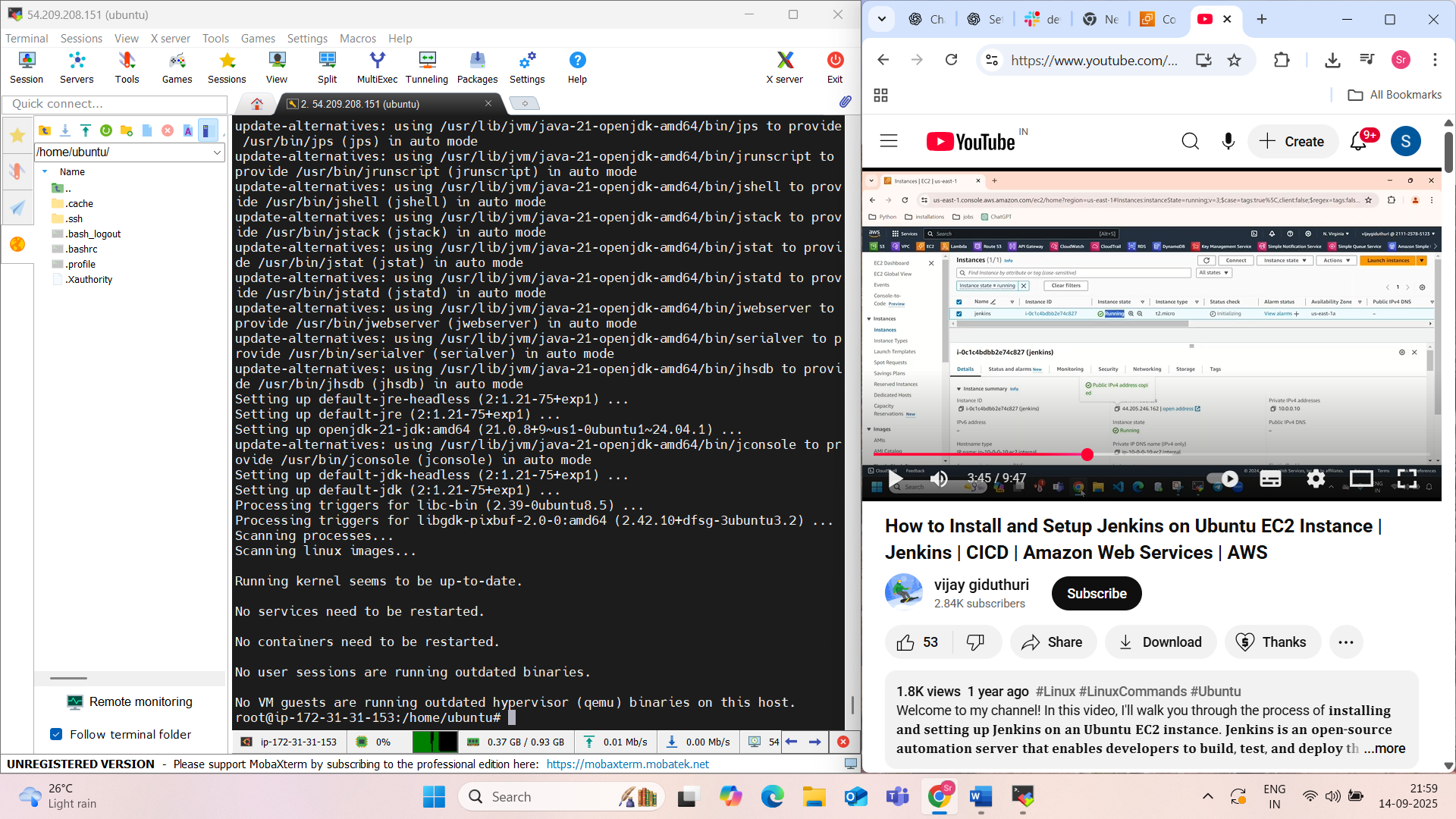
3) Setup Docker Desktop on your local windows.

1. **Launch an AWS EC2 Instance and Install Jenkins**

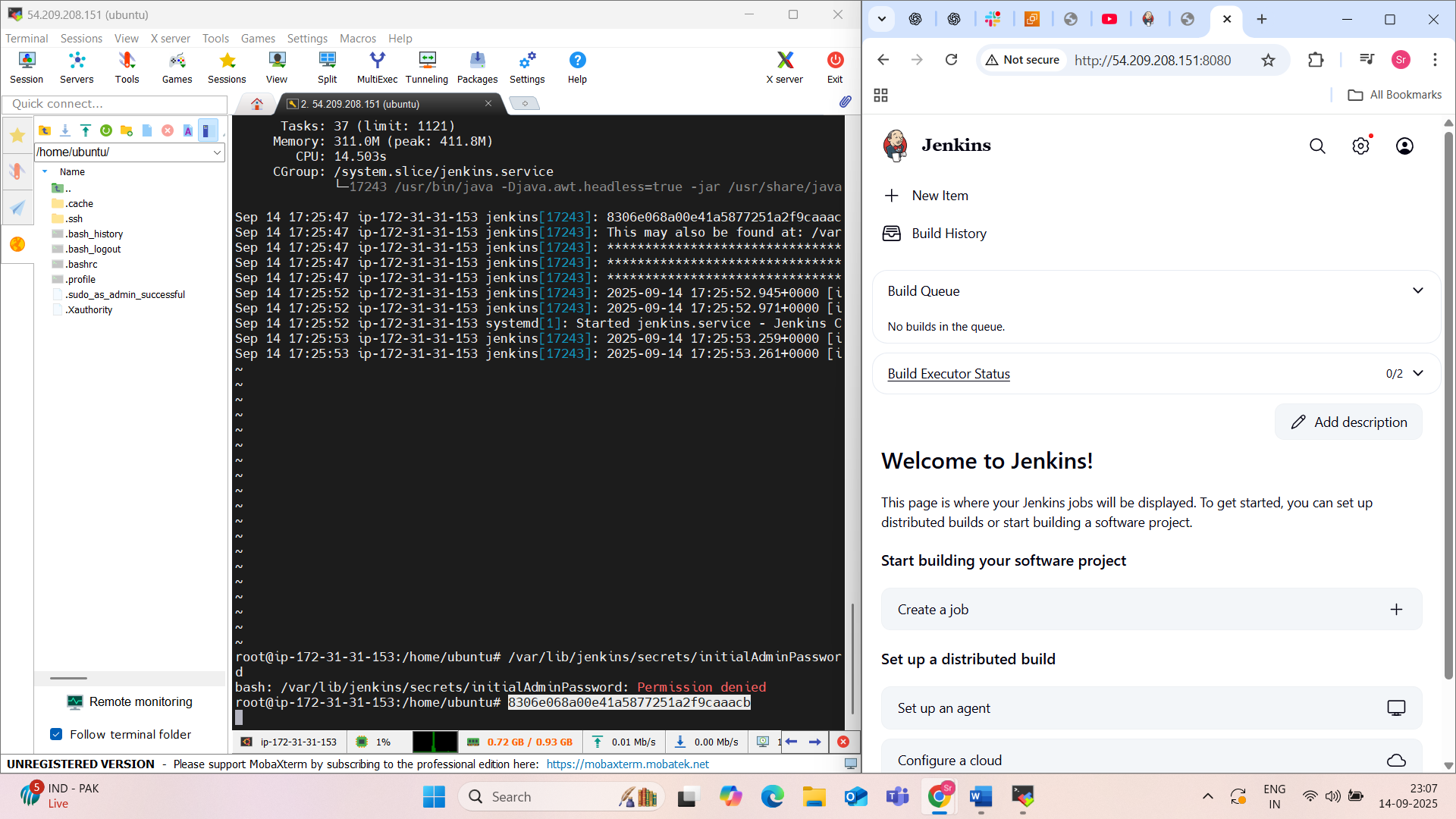
Step 1: Launch EC2 Instance



1. Step 2: Install Jenkins on EC2 (Ubuntu)



1. Step 3: Access Jenkins UI



Commands used:

Sudo apt update -y

Sudo su

Sudo apt install default-jdk

sudo wget -O /etc/apt/keyrings/jenkins-keyring.asc \

<https://pkg.jenkins.io/debian-stable/jenkins.io-2023.key>

echo "deb [signed-by=/etc/apt/keyrings/jenkins-keyring.asc]" \

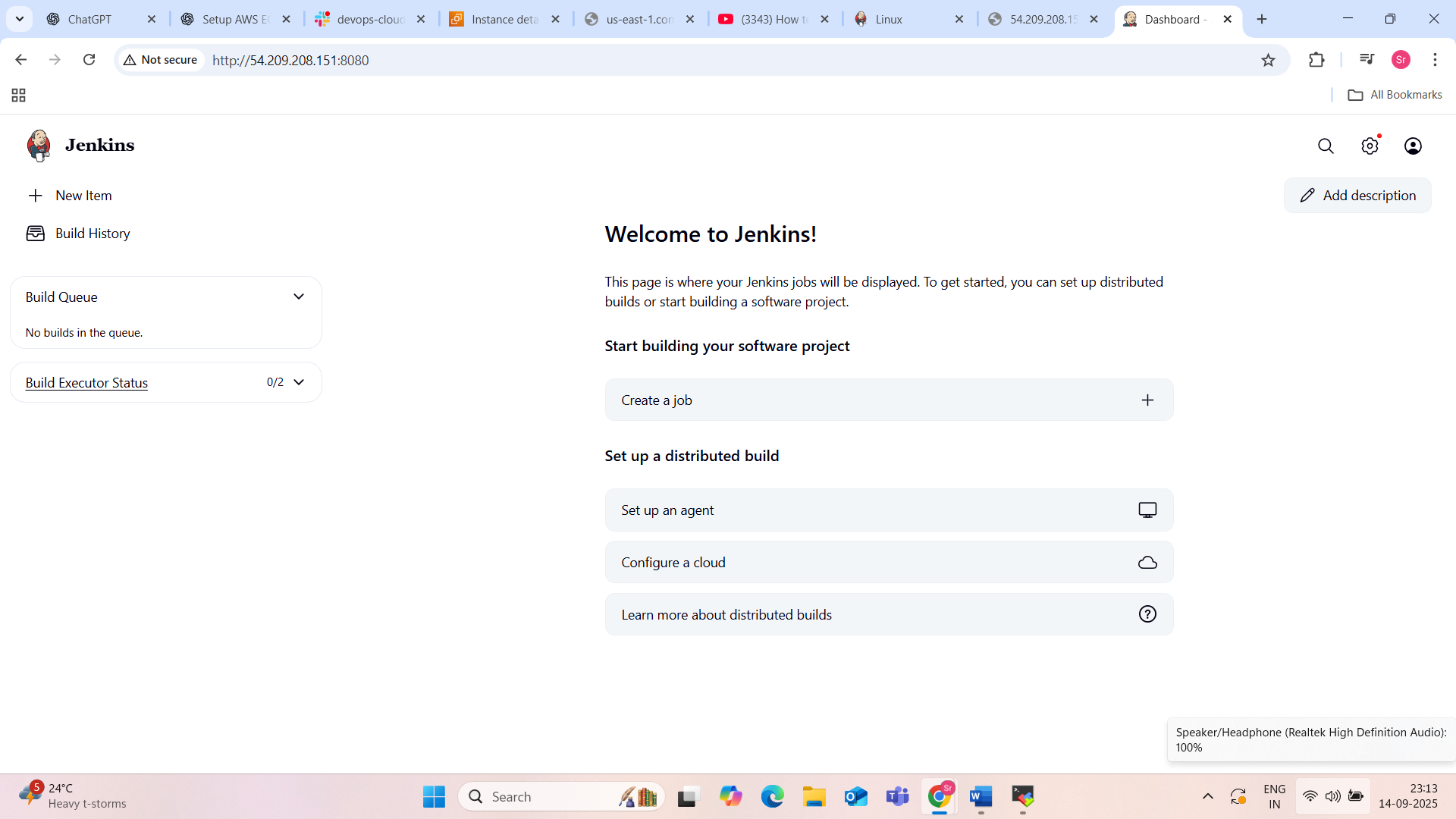
https://pkg.jenkins.io/debian-stable binary/ | sudo tee \

/etc/apt/sources.list.d/jenkins.list **>** /dev/null

sudo apt-get update

sudo apt-get install Jenkins

after Jenkins installed copy the ipv4 address and paste in the web browser with 8080 port and search..jenkins page will be displayed..give the password and Jenkins is ready



2) Setup Apache Tomcat on Ubuntu Virtual Machine

Sudo apt update.. sudo apt update && sudo apt upgrade

Step 1: Update and Install Java: sudo apt install default-jdk…. sudo apt install default-jdk -y

Step 2: Create Tomcat User

sudo groupadd tomcat  
 sudo useradd -s /bin/false -g tomcat -d /opt/tomcat tomcat

**Step 3: Download and Install Tomcat**

cd /tmp  
 wget <https://downloads.apache.org/tomcat/tomcat-X/vX.Y.Z/bin/apache-tomcat-X.Y.Z.tar.gz>

installand configure :: sudo mkdir /opt/tomcat  
 sudo tar xvf apache-tomcat-X.Y.Z.tar.gz -C /opt/tomcat --strip-components=1

Step 4: Set Permissions

sudo chown -R tomcat:tomcat /opt/tomcat  
 sudo sh -c 'chmod +x /opt/tomcat/bin/\*.sh'

Step 5: Create Tomcat Systemd Servicetep

* **Create a systemd Unit File:** This allows managing Tomcat as a service.
* Command:sudo nano /etc/systemd/system/tomcat.service
* Code
* [Unit]  
   Description=Apache Tomcat Web Application Container  
   After=network.target  
    
   [Service]  
   Type=forking  
   Environment=JAVA\_HOME=/usr/lib/jvm/default-java  
   Environment=CATALINA\_PID=/opt/tomcat/temp/tomcat.pid  
   Environment=CATALINA\_HOME=/opt/tomcat  
   Environment=CATALINA\_BASE=/opt/tomcat  
   ExecStart=/opt/tomcat/bin/startup.sh  
   ExecStop=/opt/tomcat/bin/shutdown.sh  
   User=tomcat  
   Group=tomcat  
   UMask=0007  
   RestartSec=10  
   Restart=always  
    
   [Install]  
   WantedBy=multi-user.target

Step 6: Access Tomcat

sudo systemctl daemon-reload  
 sudo systemctl start tomcat  
 sudo systemctl enable tomcat

* **Adjust Firewall (if UFW is active):** Allow traffic on port 8080.

Code

sudo ufw allow 8080/tcp  
 sudo ufw enable

* **Configure Tomcat Web Management Interface (Optional):** To access the Manager and Host Manager web applications, edit tomcat-users.xml.

Code

sudo nano /opt/tomcat/conf/tomcat-users.xml

Add user roles within the <tomcat-users> tags, for example:

Code

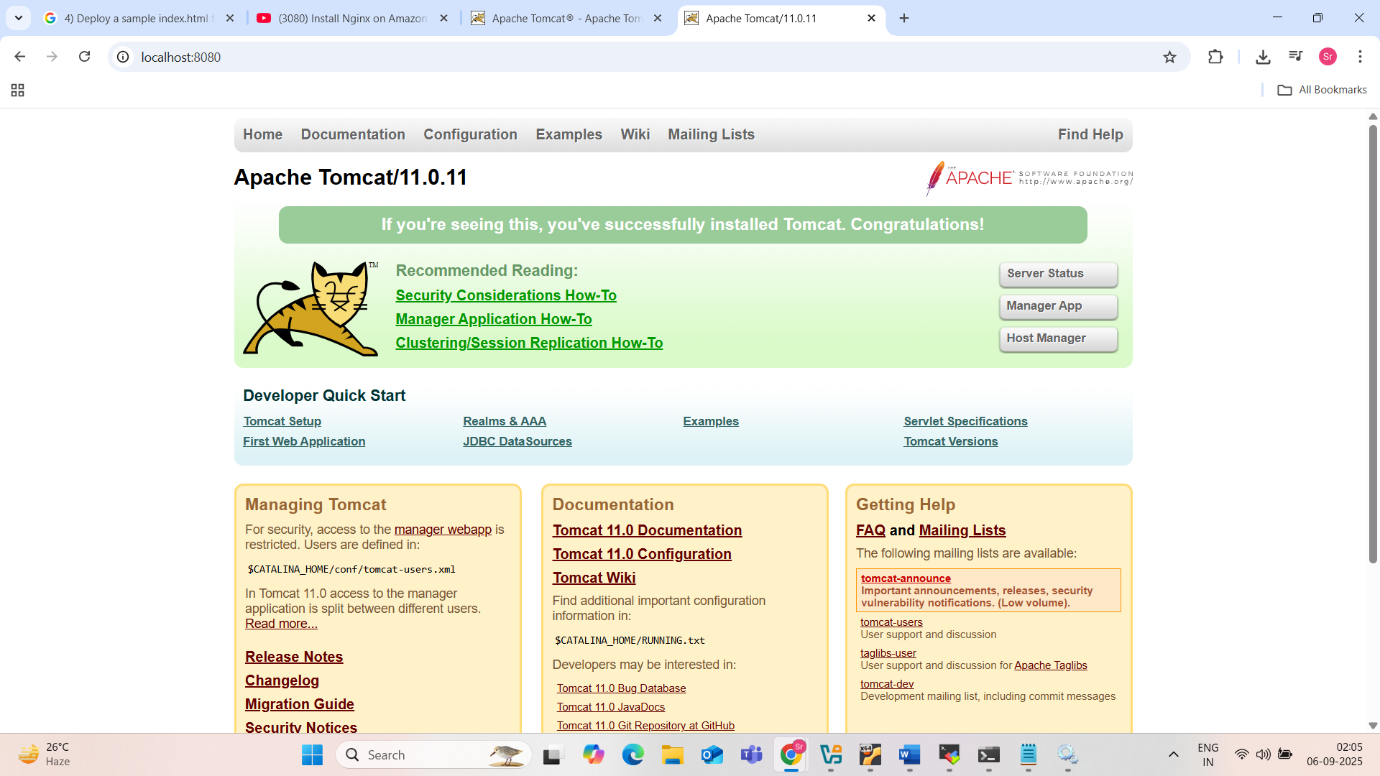
<role rolename="manager-gui"/>  
 <role rolename="admin-gui"/>  
 <user username="admin" password="your\_password" roles="manager-gui,admin-gui"/>

Replace your\_password with a strong password. Restart Tomcat after making changes.

Code

sudo systemctl restart tomcat

* **Access the Web Interface:** Open a web browser and navigate to http://your\_server\_ip:8080. You should see the Apache Tomcat welcome page. You can access the Manager App and Host Manager App at http://your\_server\_ip:8080/manager/html and http://your\_server\_ip:8080/host-manager/html respectively, using the credentials configured in tomcat-users.xml.



3) Setup Docker Desktop on your local windows.

