A. Advance Level Deployment of Jenkins

```bash
#!/bin/bash

# 01.Update packages
sudo apt update

# 02.Install Java
sudo apt install -y openjdk-11-jdk

# 03.Install Jenkins dependencies
sudo apt install -y git
sudo apt install -y maven

#04. Install Jenkins
# sudo wget -q -O - https://pkg.jenkins.io/debian-stable/jenkins.io.key | sudo apt-key add -
curl -fsSL https://pkg.jenkins.io/debian/jenkins.io-2023.key | sudo tee /usr/share/keyrings/jenkins-keyring.asc >
/dev/null

# sudo echo "deb https://pkg.jenkins.io/debian-stable binary/" >> /etc/apt/sources.list.d/jenkins.list
echo deb [signed-by=/usr/share/keyrings/jenkins-keyring.asc] https://pkg.jenkins.io/debian binary/ | sudo tee
/etc/apt/sources.list.d/jenkins.list > /dev/null

sudo apt update
sudo apt install -y jenkins  #Jenkins 2.410

# 05.Start Jenkins and enable it to start on boot
sudo systemctl status jenkins
sudo systemctl start jenkins
sudo systemctl enable jenkins


$ cat > 00.InstallJenkins.sh
PASTE
$ chmod +x 00.InstallJenkins.sh
$ source ./00.InstallJenkins.sh
```

B. INSTALL ADMIN USER

```bash
#! /bin/bash

#01.CONFIGURE VARIABLES
url=http://localhost:8080
password=$(sudo cat /var/lib/jenkins/secrets/initialAdminPassword)
alias python=python3

# 02.NEW ADMIN CREDENTIALS URL ENCODED USING PYTHON
username=$(python -c "import urllib.parse;print(urllib.parse.quote(input(), safe=''))" <<< "admin")
new_password=$(python -c "import urllib.parse;print(urllib.parse.quote(input(), safe=''))" <<< "admin")
fullname=$(python -c "import urllib.parse;print(urllib.parse.quote(input(), safe=''))" <<< "NubeEra")
email=$(python -c "import urllib.parse;print(urllib.parse.quote(input(), safe=''))" <<< "admin@gmail.com")

# 03.GET THE CRUMB AND COOKIE
cookie_jar="$(mktemp)"
full_crumb=$(curl -u "admin:$password" --cookie-jar "$cookie_jar" $url/crumbIssuer/api/xml?xpath=concat\(//crumbRequestField,%22:%22,//crumb\))
arr_crumb=($full_crumb//:/ ))
only_crumb=$(echo ${arr_crumb[1]})

# 04.MAKE THE REQUEST TO CREATE AN ADMIN USER
curl -X POST -u "admin:$password" $url/setupWizard/createAdminUser \
    -H "Connection: keep-alive" \
    -H "Accept: application/json, text/javascript" \
    -H "X-Requested-With: XMLHttpRequest" \
    -H "$full_crumb" \
    -H "Content-Type: application/x-www-form-urlencoded" \
    --cookie $cookie_jar \
    --data-raw "username=$username&password1=$new_password&password2=$new_password&fullname=$fullname&email=$email&Jenkins-Crumb=$only_crumb&json=%7B%22username%22%3A%20%22$username%22%2C%20%22password1%22%3A%20%
22$new_password%22%2C%20%22redact%22%3A%20%5B%22password1%22%2C%20%22password2%22%5D%2C%20%22password2%22%3A%20%22$new_password%22%2C%20%22fullname%22%3A%20%22$fullname%22%2C%20%22email%22%3A%20%
22$email%22%2C%20%22Jenkins-Crumb%22%3A%20%22$only_crumb%22%7D&core%3Aapply=&Submit=Save&json=%7B%22username%22%3A%20%22$username%22%2C%20%22password1%22%3A%20%22$new_password%22%2C%20%22redact%22%3A%
20%5B%22password1%22%2C%20%22%5D%2C%20%22password2%22%3A%20%22$new_password%22%2C%20%22fullname%22%3A%20%22$fullname%22%2C%20%22email%22%3A%20%22$email%22%2C%20%22Jenkins-Crumb%22%3A%20%22
$only_crumb%22%7D"
```

echo "Jenkins Tutorial"
echo("Jenkins Tutorial")
echo message: "Jenkins Tutorial"
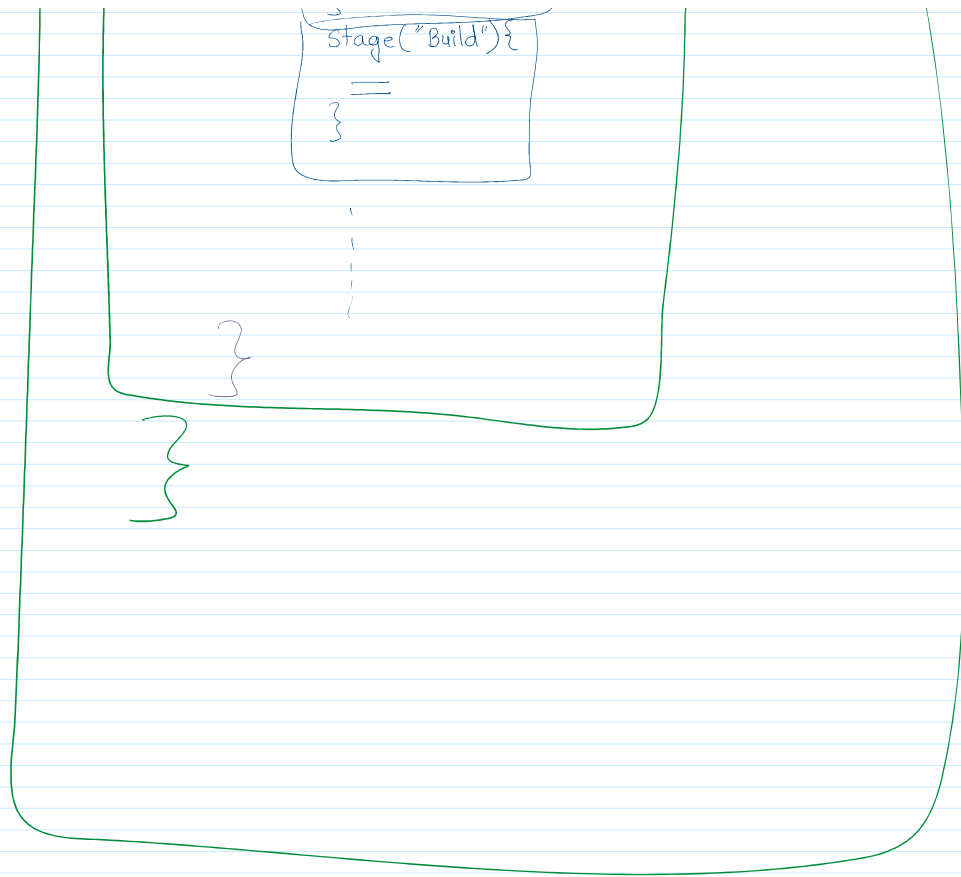echo(message: "Jenkins Tutorial")

pipeline {
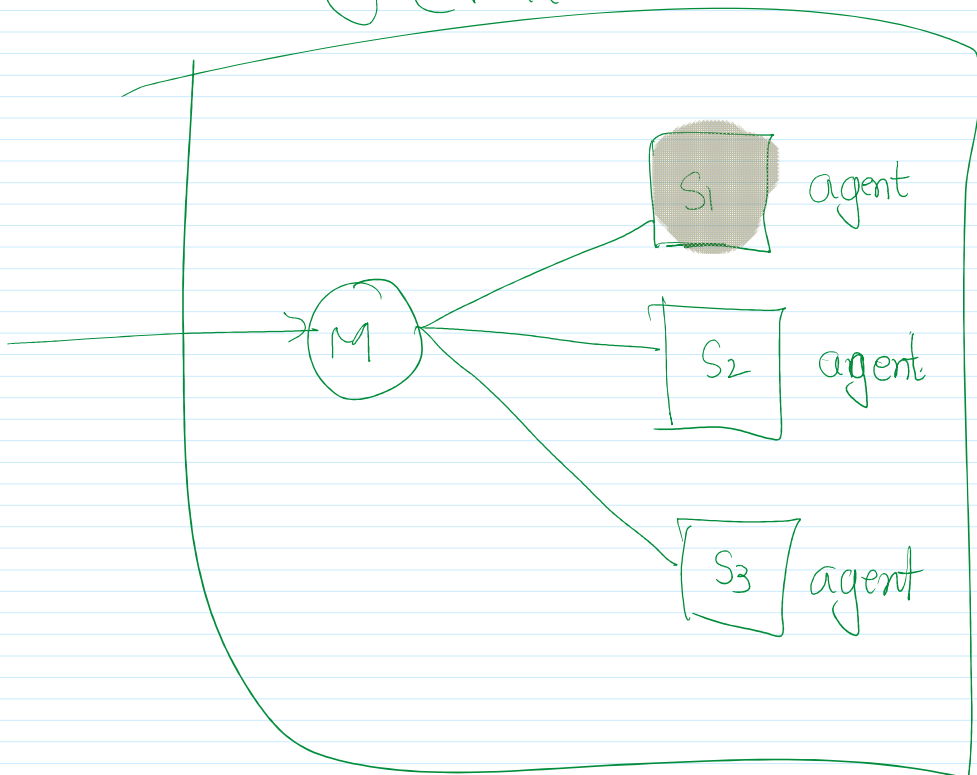 agent any
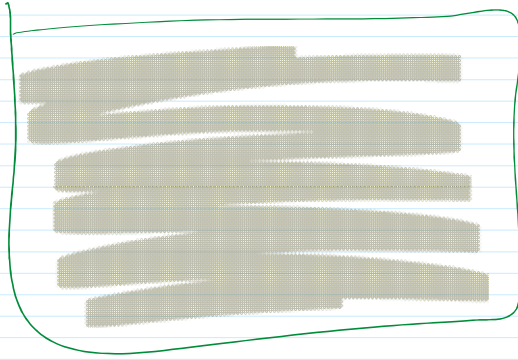 stages {
    stage("Clone") {

    }
    stage("Build") {

    }
  }
}

```
stage("Build"){

}
```

}

}

Jenkins Cluster (MultiNodes)

S1 agent

M → S2 agent

S3 agent

Jenkins SingleNode

```
pipeline {
    agent any

    stages {
        stage('Hello') {
            steps {
                echo 'Hello World'
            }
        }
    }
}
```

```
pipeline{
    agent any
    stages{
        stage("Stage1"){
            steps{
                echo "Jenkins Tutorial"
                echo("Jenkins Tutorial")
            }
        }
        stage("Stage2"){
            steps{
                echo message: "Jenkins Tutorial"
            }
        }
        stage("Stage3"){
            steps{
                echo(message: "Jenkins Tutorial")
            }
        }
    }
}
```

VCS   Build   Package

VCS — Git

Build — Maven

Package — Arti

Jenkins

CI

Git → pipeline → Jenkins server

Cred
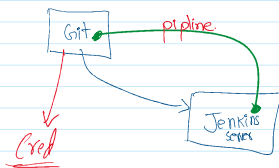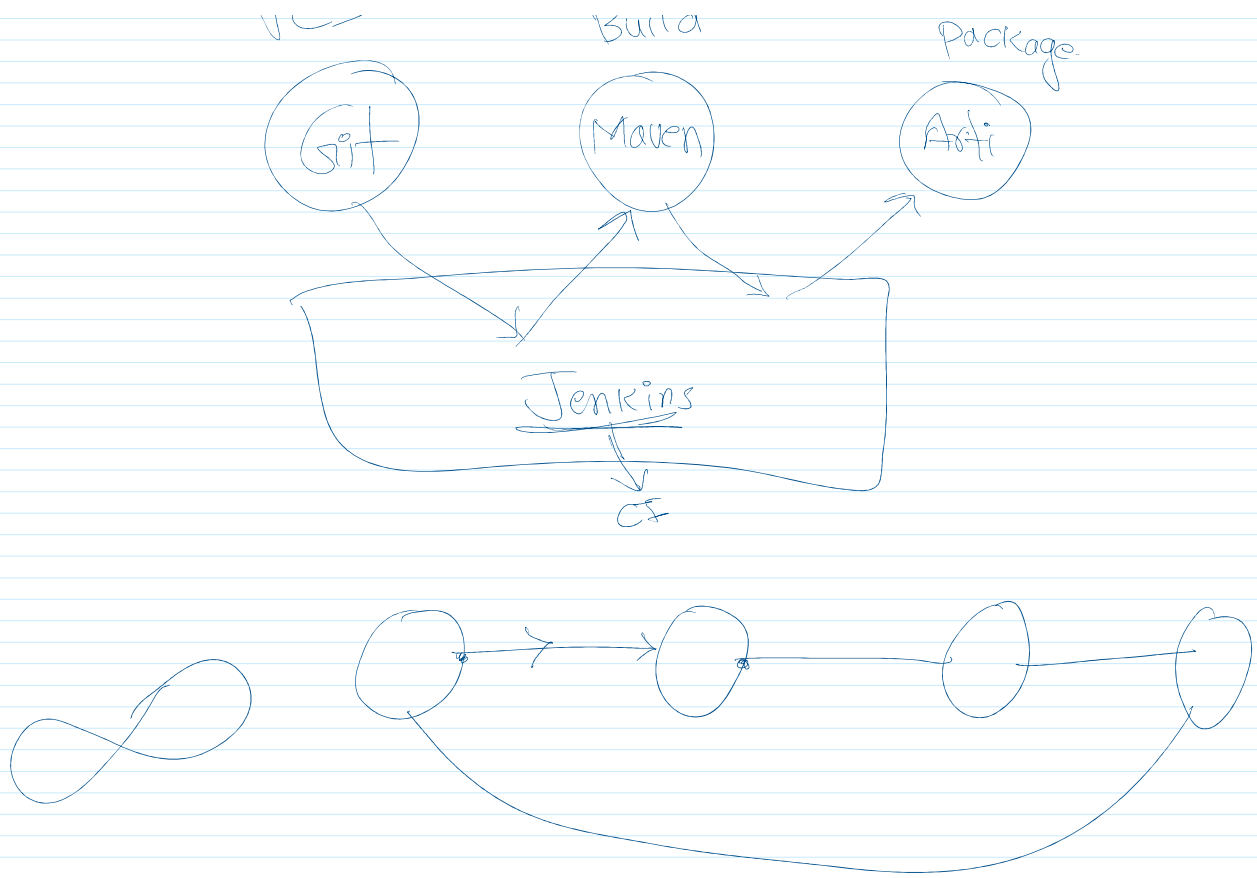
```
pipeline {
    agent any
    stages {
        stage('write') {
            steps {
                script {
                    def date = new Date()
                    def data = "Welcome to NubeEra\nSecond line\n" + date
                    writeFile(file: 'mujahed.txt', text: data)
                    sh "ls -l"
                }
            }
        }
    }
}
```