**PART1: SETUP JENKINS SERVER**

**STEPS:**

1. **Setup a LINUX EC2 instance:** Open a Linux EC2 instance on AWS and add ports 22 to SSH on your Linux EC2 instance and 8080 to access Jenkins web UI.
2. **Install Java:**

* Run below commands to use Jenkins repository :
* sudo wget -O /etc/yum.repos.d/jenkins.repo https://pkg.jenkins.io/redhat-stable/jenkins.repo
* sudo rpm --import <https://pkg.jenkins.io/redhat-stable/jenkins.io.key>
* run below command to setup epel release packages:
* sudo amazon-linux-extras install epel
* run below command to install java
* sudo amazon-linux extras install java-openjdk11

1. **Install Jenkins:**

* Sudo yum install jenkins -y

1. **Start Jenkins service:**

* Sudo service jenkins start

1. **Access Jenkins web UI on port 8080:**

* Access web UI of Jenkins on port 8080 by using instance public id: <instance-public-id>:8080
* cat /var/lib/Jenkins/secrets/initialAdminPassword to get Administrator password to unlock Jenkins

**PART2: INTEGRATING GIT WITH JENKINS**

**STEPS:**

1. **Installing Git** on Jenkins server:

* **COMMAND**: sudo yum install git -y

1. Install **github** plugin on Jenkins GUI:

* **PATH:** Jenkins web UI > Dashboard > manage Jenkins > manage Plugins

1. Configure Git on Jenkins GUI:

* PATH: Jenkins web UI > Dashboard > manage Jenkins > Global Tool Configuration> add git as path to git executable

**PART3: INTEGRATING MAVEN WITH JENKINS:**

* Maven is used to build the job and create output/artifacts of it.
* Artifacts are stored in **webapp.war** file.
* **PATH of war file**: /var/lib/Jenkins/workspace/<job\_name>/webapp/target/webapp.war

**STEPS:**

1. **Setup Maven on Jenkins server:**

* Sudo su – (to login as root user)
* cd /opt
* wget <https://dlcdn.apache.org/maven/maven-3/3.8.6/binaries/apache-maven-3.8.6-bin.tar.gz> (use latest link from maven official page)
* tar -xvzf apache-maven-3.8.6-bin.tar.gz (to unzip tar.gz file)
* mv apache-maven-3.8.6-bin.tar.gz maven

1. **Setup environment variables:**

* This is done to execute maven command out of bin directory from anywhere
* Cd /root
* Vi .bash\_profile
* M2\_HOME=/opt/maven/

M2=/opt/maven/bin/

JAVA\_HOME= /usr/lib/jvm/java-11-openjdk-11.0.16.0.8-1.amzn2.0.1.x86\_64

* $JAVA\_HOME:$M2\_HOME:$M2
* Exit (to exit root user)
* Sudo su – - -> echo “$path” - - > mvn -v (to check if maven can be executed out of bin directory

1. **Install “Maven Integration plugin” Plugin on Jenkins GUI**

* **PATH:** Jenkins web UI > Dashboard > manage Jenkins > manage Plugins

1. **Configure Maven and Java on Jenkins UI:**

* **PATH:** Jenkins web UI > Dashboard > manage Jenkins > configure system
* Add JAVA\_HOME path and MAVEN\_HOME paths

**NOTE: While running Jenkins job add “clean install” in Goals and options.**