Jenkins Automation setup

#!/usr/bin/env bash

# -----------------------------------------------------------------------------

# Jenkins Automation Setup Script for Ubuntu (no Docker)

# - Installs OpenJDK 17, Maven (sets env vars), and Jenkins LTS

# - Idempotent-ish (safe to re-run), with clear logging & error handling

# Tested on: Ubuntu 20.04 / 22.04 / 24.04

# Usage: sudo bash setup\_java\_maven\_jenkins.sh

# -----------------------------------------------------------------------------

set -euo pipefail

IFS=$'\n\t'

# ----- pretty logging -----

RED='\033[0;31m'; GREEN='\033[0;32m'; YELLOW='\033[1;33m'; NC='\033[0m'

log() { echo -e "${GREEN}[INFO]${NC} $\*"; }

warn() { echo -e "${YELLOW}[WARN]${NC} $\*"; }

err() { echo -e "${RED}[ERROR]${NC} $\*"; }

# ----- guard rails -----

if [[ $EUID -ne 0 ]]; then err "Run as root (use: sudo)"; exit 1; fi

trap 'err "Failed at line $LINENO"; exit 1' ERR

# ----- apt hygiene -----

export DEBIAN\_FRONTEND=noninteractive

log "Updating system packages..."

apt-get update -y

apt-get upgrade -y

apt-get install -y curl wget gnupg ca-certificates software-properties-common unzip git

# ----- Java 17 -----

if ! command -v java >/dev/null 2>&1; then

log "Installing OpenJDK 17..."

apt-get install -y openjdk-17-jdk

else

log "Java already present: $(java -version 2>&1 | head -n1)"

fi

# discover JAVA\_HOME robustly via alternatives

JAVA\_BIN="$(readlink -f "$(command -v java)")" # /usr/lib/jvm/.../bin/java

JAVA\_HOME="$(dirname "$(dirname "$JAVA\_BIN")")" # strip /bin/java

log "Setting JAVA\_HOME to: $JAVA\_HOME"

cat >/etc/profile.d/java\_env.sh <<EOF

export JAVA\_HOME="$JAVA\_HOME"

export PATH="\$JAVA\_HOME/bin:\$PATH"

EOF

chmod +x /etc/profile.d/java\_env.sh

# Apply to current shell (future shells source profile.d automatically)

# shellcheck source=/dev/null

source /etc/profile.d/java\_env.sh || true

# ----- Maven -----

if ! command -v mvn >/dev/null 2>&1; then

log "Installing Maven..."

apt-get install -y maven

else

log "Maven already present: $(mvn -version 2>&1 | head -n1)"

fi

# On Ubuntu, Maven lives in /usr/share/maven; mvn in /usr/bin (symlink)

M2\_HOME="/usr/share/maven"

log "Setting M2\_HOME to: $M2\_HOME"

cat >/etc/profile.d/maven\_env.sh <<EOF

export M2\_HOME="$M2\_HOME"

export MAVEN\_HOME="\$M2\_HOME"

export PATH="\$M2\_HOME/bin:\$PATH"

EOF

chmod +x /etc/profile.d/maven\_env.sh

# shellcheck source=/dev/null

source /etc/profile.d/maven\_env.sh || true

# ----- Jenkins LTS (official repo) -----

if ! id -u jenkins >/dev/null 2>&1; then

log "Adding Jenkins repository and installing Jenkins LTS..."

# new-style signed-by key placement

install -d -m 0755 /usr/share/keyrings

curl -fsSL https://pkg.jenkins.io/debian-stable/jenkins.io-2023.key \

| tee /usr/share/keyrings/jenkins-keyring.asc >/dev/null

cat >/etc/apt/sources.list.d/jenkins.list <<'EOF'

deb [signed-by=/usr/share/keyrings/jenkins-keyring.asc] https://pkg.jenkins.io/debian-stable binary/

EOF

apt-get update -y

apt-get install -y jenkins

systemctl enable --now jenkins

else

log "Jenkins user exists — assuming Jenkins is already installed. Ensuring service running..."

systemctl enable --now jenkins

fi

# ----- optional UFW open (only if ufw installed & active) -----

if command -v ufw >/dev/null 2>&1; then

if ufw status | grep -qi "Status: active"; then

log "UFW active: allowing TCP/8080 for Jenkins UI"

ufw allow 8080/tcp || warn "Could not add UFW rule (non-fatal)"

ufw reload || true

else

warn "UFW installed but not active; skipping firewall change"

fi

else

warn "UFW not installed; relying on cloud firewall/Security Group"

fi

# ----- wait for Jenkins to generate initial password -----

log "Waiting for Jenkins to initialize (up to 120s)..."

PASS\_FILE="/var/lib/jenkins/secrets/initialAdminPassword"

for i in {1..24}; do

if [[ -s "$PASS\_FILE" ]]; then break; fi

sleep 5

done

if [[ -s "$PASS\_FILE" ]]; then

JENKINS\_PASS="$(cat "$PASS\_FILE")"

log "Jenkins initial admin password: ${JENKINS\_PASS}"

else

warn "initialAdminPassword not found yet. Jenkins may still be starting."

JENKINS\_PASS="<not-ready>"

fi

# ----- summary -----

IP="$(hostname -I 2>/dev/null | awk '{print $1}')"

log "========== SUMMARY =========="

log "OS: $(. /etc/os-release; echo "$PRETTY\_NAME")"

log "Java: $(java -version 2>&1 | head -n1)"

log "JAVA\_HOME: $JAVA\_HOME"

log "Maven: $(mvn -version 2>&1 | head -n1)"

log "M2\_HOME: $M2\_HOME"

log "Jenkins: service is $(systemctl is-active jenkins)"

log "Jenkins URL: http://${IP:-<your-ip>}:8080"

log "Admin Password:${JENKINS\_PASS}"

log "Env files: /etc/profile.d/java\_env.sh, /etc/profile.d/maven\_env.sh"

log "Note: open your browser to the Jenkins URL above to finish setup."