JENKINS LTS INSTALLATION AND MAINTENANCE GUIDE

1. OVERVIEW

Jenkins is an open-source automation server that helps automate the building, testing, and deployment of software projects. This document describes the setup of Jenkins LTS on a Linux system using Docker, followed by guidelines for plugin usage, log management, and maintenance.

2. SYSTEM REQUIREMENTS

Prerequisites:
- Linux machine with sudo privileges (Ubuntu, Debian, or CentOS recommended)
- Installed and configured Docker Engine (v20+) and Docker Compose (v2+)
- Minimum: 4 GB RAM, 2 vCPU, 20 GB disk space
- Stable network access

3. INSTALL JENKINS LTS USING DOCKER

Step 1: Pull the Jenkins LTS Docker Image
docker pull jenkins/jenkins:lts

Step 2: Create a Persistent Directory
sudo mkdir -p /var/jenkins_home
sudo chown -R 1000:1000 /var/jenkins_home

Step 3: Run Jenkins Container
docker run -d --name jenkins-lts -p 8080:8080 -p 50000:50000 -v /var/jenkins_home:/var/jenkins_home jenkins/jenkins:lts

Step 4: Access Jenkins Web UI at http://:8080
Get admin password using:
docker exec jenkins-lts cat /var/jenkins_home/secrets/initialAdminPassword

Step 5: Install suggested plugins and create admin user.

4. USEFUL OPEN SOURCE JENKINS PLUGINS

Commonly used open-source plugins across DevOps workflows include:

Pipeline - Enables Jenkins Pipeline as Code for CI/CD automation
Git - Integrates Jenkins with Git repositories
Blue Ocean - Modern UI for Pipelines visualization
Docker Pipeline - Builds and runs Docker containers in Jenkins Pipelines
Credentials Binding - Securely manages secrets and credentials
Email Extension - Configurable email notifications
SonarQube Scanner - Integrates SonarQube code quality analysis
Slack Notification - Sends build alerts to Slack channels

AnsiColor - Adds colored output to Jenkins console logs
Job DSL - Automates job creation using Groovy scripts
Kubernetes - Deploys build agents dynamically on clusters

Best Practices:
- Regularly update plugins
- Remove unused ones
- Backup before upgrade
- Prefer stable releases

5. LOG ROTATION GUIDELINES

1. Enable job-level log rotation under Build Discarder.
2. Configure system log rotation using /etc/logrotate.d/jenkins.
3. Add Docker log rotation in /etc/docker/daemon.json.
4. Monitor disk usage weekly using df -h /var/jenkins_home.

6. SERVER MAINTENANCE AND UPGRADE GUIDELINES

Routine Maintenance:
- Backup /var/jenkins_home regularly.
- Monitor health with Prometheus/Grafana.
- Update Jenkins and plugins periodically.
- Clean old workspaces.

Version Upgrade Steps:
1. Backup data: docker stop jenkins-lts && tar -czvf jenkins_backup_.tar.gz /var/jenkins_home
2. Pull latest image: docker pull jenkins/jenkins:lts
3. Recreate container.
4. Verify Jenkins version and jobs.

7. FALLBACK MESSAGE

“I’m sorry, I can’t answer that. Please contact DevOps Support Team.”

8. SUMMARY

Deploying Jenkins LTS with Docker simplifies setup, upgrades, and portability. Following best practices for plugin management, log rotation, and maintenance ensures stable, secure, and performant Jenkins environments.