amarula solutions

Go Far, Go Together

TRAINING PROGRAMME

ONE-DAY HANDS-ON TRAINING

Jenkins CI/CD

For users and administrators

A practical day on Jenkins pipelines: jobs, parameters, triggers, shared libraries, nodes, credentials and automated testing.

DURATION	TRAINER	MINIMUM	PRICE
1 day per track	**Michael Trimarchi**	**3 users / 1 admin**	**On request**

Two tracks, one build pipeline

Jenkins is the automation server behind many embedded and open-source CI pipelines. This one-day training is available in two tracks: one for developers who build and maintain pipelines, and one for administrators who run nodes, shared libraries and credentials.

FORMAT	EXERCISES	TRAINER	PRICE
Instructor-led, hands-on	**Web UI and pipeline code**	**Michael Trimarchi**	**On request**

JENKINS FOR USERS

Developers and pipeline authors · minimum 3 participants

- CI/CD concepts and Jenkins terminology
- Pipeline jobs, parameters and triggers
- Pipeline scripts, shared libraries and debugging

JENKINS FOR ADMINISTRATORS

Jenkins administrators, DevOps and CI owners · minimum 1 participant

- Nodes, labels and maintenance
- Global variables and Shared Libraries
- Credentials, scopes and troubleshooting

WHAT EVERY TRACK INCLUDES

- Instructor-led explanations and live demonstrations
- Hands-on exercises in the Jenkins web UI and in pipeline code
- Discussion and Q&A with the trainer

PREREQUISITES

- Basic Git skills: clone, commit and push
- Familiarity with continuous integration concepts
- Linux command-line basics
- A laptop with Git and an SSH client for the exercises

> The administrator track also assumes Linux and SSH basics, plus a basic understanding of CI and code review workflows. Docker basics are helpful.

TRACK 01 OF 02

Jenkins for users

A practical day for developers who create jobs, write pipelines and debug builds. The track follows a change from the first commit to a verified build, with exercises in the Jenkins web UI and in pipeline code.

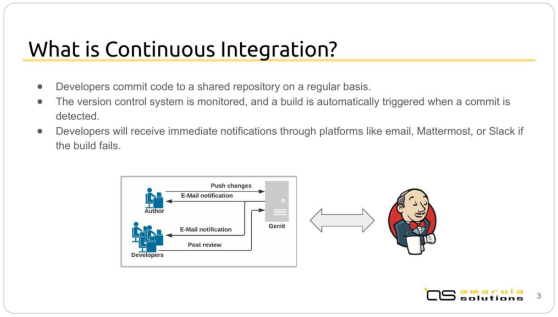
WHAT YOU WILL LEARN

- Explain continuous integration and delivery, and where Jenkins fits
- Work with jobs, pipelines, stages, artifacts, parameters, nodes and Docker
- Create folders, pipeline jobs, parameters and build triggers
- Write and debug declarative and scripted pipelines
- Reuse common code through Jenkins Shared Libraries
- Integrate builds with Gerrit Trigger, artifact managers and lockable resources

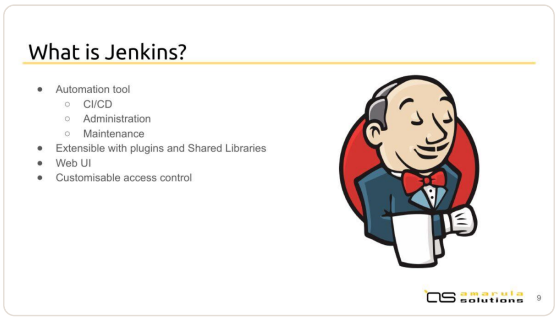
AGENDA

Morning · CI/CD concepts and the Jenkins role; jobs, pipelines, stages, artifacts, parameters, nodes and Docker; creating pipeline jobs and triggers.

Afternoon · Pipeline scripts and Shared Libraries; Gerrit Trigger, artifact managers and lockable resources; debugging with console output, replay and Pipeline Syntax.



What is Continuous Integration?



What is Jenkins?

PIPELINE LIFECYCLE

Commit

↓

Trigger

↓

Build

↓

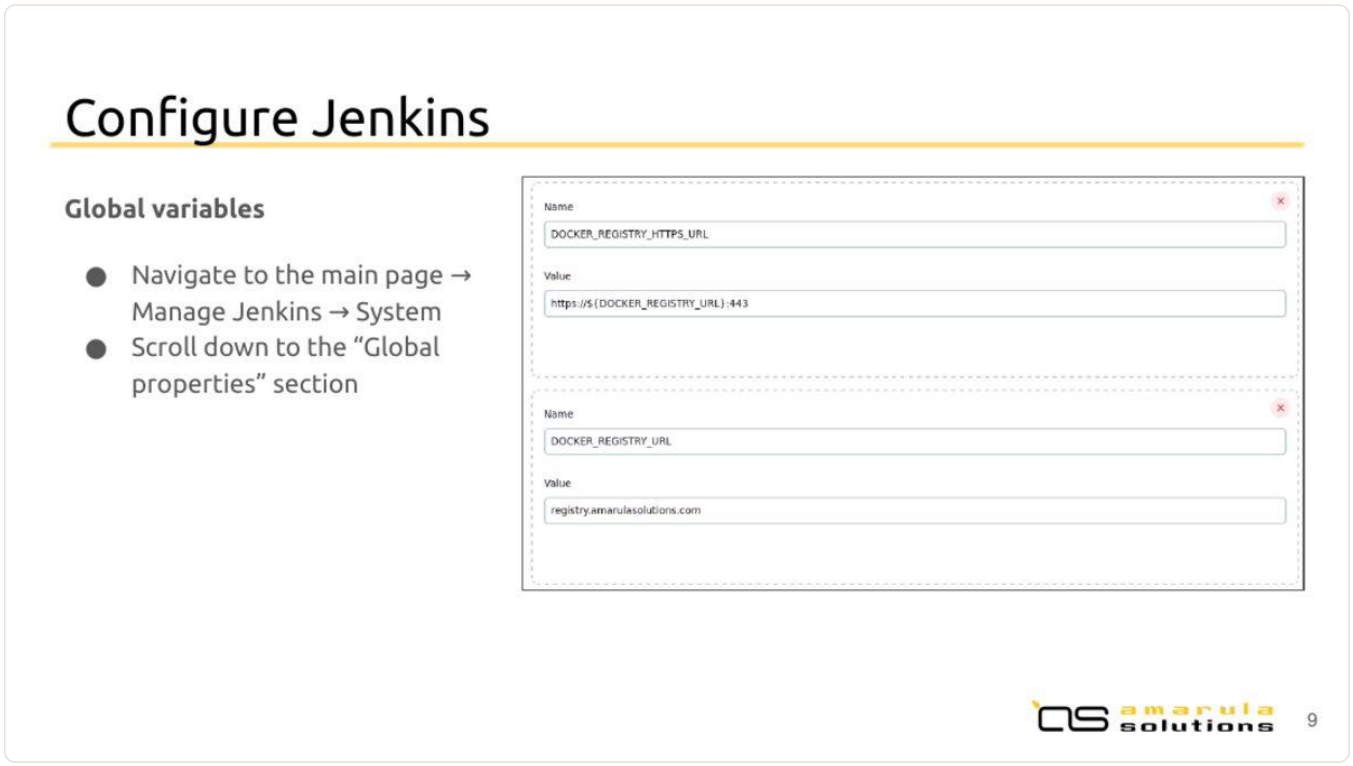
Test

↓

Feedback

TRACK 02 OF 02

Jenkins for administrators



Configuring global variables in Jenkins

A focused day for the people who run Jenkins: nodes, configuration, shared libraries and credentials. Each setting is discussed in terms of its effect on pipeline authors and on the reliability of the build infrastructure.

WHAT YOU WILL LEARN

- Prepare Jenkins nodes: the jenkins user, SSH, Java, Docker and Git
- Use node labels, offline mode, script console and launch logs
- Configure global variables and Global Pipeline Libraries
- Manage credentials, scopes and credential IDs used by pipelines
- Troubleshoot node connectivity, configuration and pipeline failures

AGENDA

Morning · Jenkins architecture and node requirements; labels, offline mode, script console and logs; global variables and Shared Libraries.

Afternoon · Credentials, scopes and access from pipelines; operational practices and troubleshooting; hands-on exercises and Q&A.

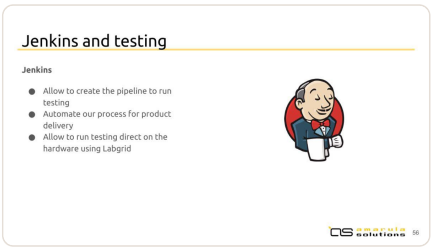
ADMINISTRATOR WORKFLOW

Nodes
↓
Labels
↓
Global config
↓
Shared libraries
↓
Credentials

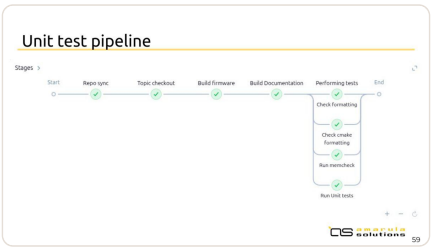
Minimum 1 participant. The administrator track can run as a one-to-one session.

OPTIONAL MODULE

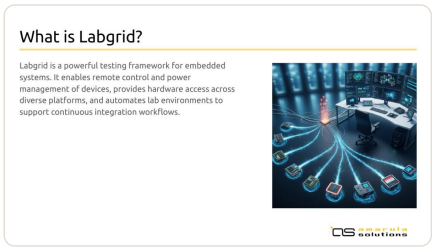
CI/CD and hardware testing



Jenkins and testing



Unit test pipeline



What is Labgrid?

The training can include an optional module on extending Jenkins pipelines to software and hardware testing.

WHAT YOU WILL LEARN

- Unit tests, code coverage, memcheck and documentation checks in a pipeline
- Jenkins pipeline patterns for automated verification
- Labgrid for embedded hardware testing: targets, resources and places
- Remote device control, power management and resource locking
- A hardware test pipeline that runs on real boards

HOW THE MODULE RUNS

Participants see a unit-test pipeline with formatting, memcheck and documentation checks, then follow a hardware test pipeline built with Labgrid. The module covers device control, power management, resource locking and pytest integration.

It is included when the team wants to extend its Jenkins pipelines beyond building and into automated testing.

Your trainer



Michael Trimarchi

Co-Founder & CEO, Amarula Solutions

Michael is a Linux software engineer working on embedded and real-time systems. He holds a Master's degree in Software Engineering from the University of Pisa and is co-author of the first version of the EDF patches submitted to mainline Linux.

Michael teaches this training from the perspective of teams that run Jenkins in production: the pipelines developers use every day, and the administrator decisions that keep the build infrastructure reliable.

Book a track

USERS	ADMINISTRATORS	TRAINER	PRICE
1 day · min. 3	**1 day · min. 1**	**Michael Trimarchi**	**On request**

Sessions are arranged on request. Tell us which track you need, the audience and your preferred dates.

Request a quotation

Use the quotation form at amarulasolutions.com/quotation/.

Talk to us

Contact the Amarula team at amarulasolutions.com/contact/ or info@amarulasolutions.com.

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