



# Real Time College

**Course: Jenkins**

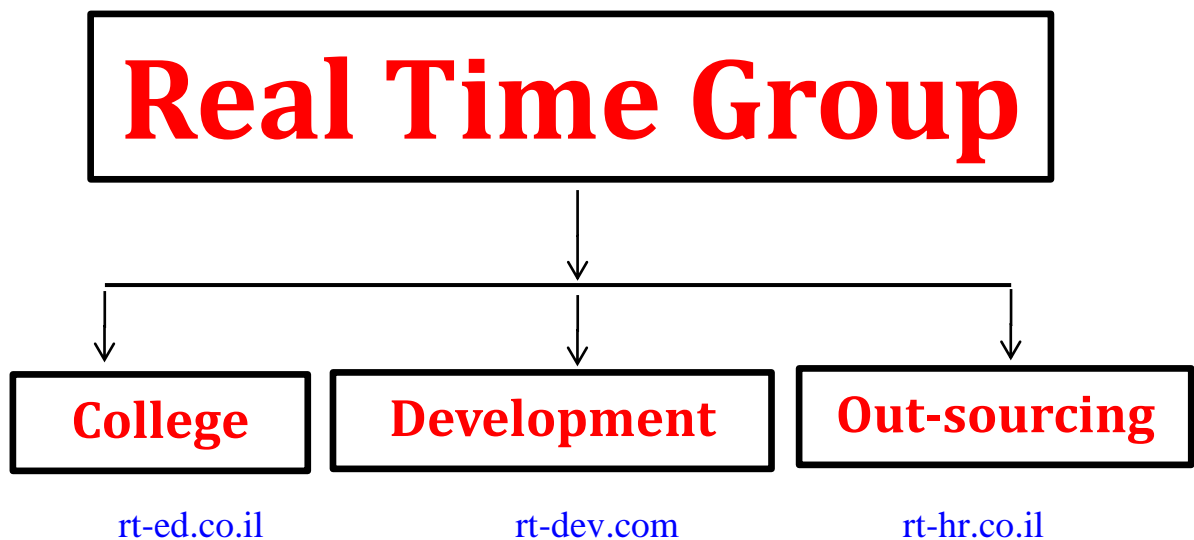
**Duration: 30 Hours**

**Hands-On-Training: 75%**

Real Time Group is a multi-disciplinary dynamic and innovative Software Solutions Center, established in 2007.

Providing Devops solutions, professional services and consulting, end-to-end flexible system infrastructure, outsourcing, integration and training services for Hardware, Software and RT-OS \ Embedded Systems.

The company is divided into the following three Divisions:



### **Training Division:**

Professional Training Services for IT, Software, RT-OS and Embedded systems industries.

We provide the knowledge and experience needed to enable professional engineers to Develop, Integrate and QA Hardware, Software and Networking Projects.

In order to insure experience, all courses are practical – hands-on-training. The latest Devops tools and Automation equipment which are adopted by the industry are used.

All students are supplied with Hardware and Software equipment needed for homework and course projects.

## **Course Overview:**

Jenkins is one of the most popular tools for continuous integration on ANY platform, its able to handle just about any kind of build or continuous integration process. Its an open-source automation tool for Windows, Mac, Linux, and Docker.

In this course you will Learn the essentials of Jenkins, the DevOps automation platform, how to automate software development and system administration tasks with Jenkins, create builds, test and secure deployments, create a continuous integration and delivery pipeline, and more.

## **Who should attend:**

- This Course is intended for testers or programmers wish to learn how to build and test their projects continuously.

## **Prerequisite:**

- Understanding of Software Development Life Cycle.
- Familiarity with Source control utilities
- Basic Testing concepts are an advantage.

# Jenkins Course Outline

1. **Introduction to Jenkins**
  - a. What is Jenkins used for?
  - b. What is Continuous Integration?
  - c. System Requirements
  
2. **Instating Jenkins - Preparing Your Environment**
  - a. Download Jenkins
  - b. Installing Git
  - c. Configuring the Tools
  - d. Configuring Your Maven Setup
  - e. Setting Up Git
  
3. **Getting Started with Jenkins**
  - a. Starting up Jenkins
  - b. Your First Jenkins Build Job
  - c. How to Trigger a remote build + Job chaining In Jenkins
  - d. Git and GitHub Integration with Jenkins (SCM)
  - e. How to send Email Notifications from Jenkins
  
4. **Manage Users And Plugins**
  - f. How to create Users
  - g. Install Jenkins plugins
  - h. Using the Role-Based Authorization Strategy + Manage Roles
  - i. Configuring the System Environment
  
5. **Jenkins Pipelines**
  - a. Jenkins Pipelines Introduction
  - b. Jenkins Pipelines vs Jenkins Job DSL
  - c. Jenkins Pipelines Example
  - d. Jenkins pipelines with Application and Docker
  - e. Build, test, and run everything in Docker containers
  - f. Demo: Build, test, and run everything in Docker containers

## 6. **Advanced Jenkins usage (Based on Timing Constraints)**

- a. Introduction to Jenkins Slaves
- b. Jenkins Slaves benefits and best practices
- c. Demo - Jenkins slave using SSH
- d. Demo: Jenkins slave using jnlp
- e. Blue Ocean
- f. Demo - Blue Ocean
- g. ssh-agent
- h. demo: ssh agent
- i. Security best practices
- j. Authentication and authorization
- k. Demo: authorizations
- l. Authentication Providers for Jenkins
- m. Demo: Onelogin Integration with Jenkins using SAML