**JENSKINS**

* **Introduction**

1. Jenkins is an open-source automation server used for continuous integration and continuous delivery (CI/CD) processes.
2. This user guide serves as a comprehensive resource for understanding and using Jenkins effectively.
3. It is intended for developers, DevOps engineers, system administrators, and anyone involved in software development and deployment.
4. Whether you're new to Jenkins or an experienced user, this guide will help you harness its power for streamlining your development workflow.
5. Learn how to automate build, test, and deployment processes with Jenkins to improve efficiency and reliability.
6. Gain insights into best practices and advanced techniques for maximizing the benefits of Jenkins in your projects.
7. This guide covers installation, setup, configuration, usage, and troubleshooting of Jenkins.
8. Explore the wide range of features and capabilities Jenkins offers for automating software development lifecycle tasks.
9. Get started with Jenkins and unlock the potential for faster, more reliable software delivery in your organization.
10. Let's dive into the world of Jenkins and discover how it can revolutionize your development and deployment workflows.

* **system requirement**

1. **Operating System Compatibility**:
   * Jenkins is compatible with various operating systems, including Windows, macOS, Linux, and Unix-like systems.
2. **Java Runtime Environment (JRE)**:
   * Jenkins requires Java to be installed on the system.
   * Recommended: Java 8 or later versions. (Specific requirements may vary depending on the Jenkins version.)
3. **Memory (RAM)**:
   * Minimum: 256 MB RAM.
   * Recommended: At least 1 GB RAM for small installations; higher amounts may be required for larger setups with heavy usage.
4. **Disk Space**:
   * Minimum: 1 GB of disk space for Jenkins installation and basic functionality.
   * Additional space may be required for storing build artifacts, logs, and plugin data.
5. **Processor**:
   * Jenkins does not have strict CPU requirements.
   * Any modern processor capable of running the chosen operating system should suffice.
6. **Network Connectivity**:
   * Internet access may be required for downloading Jenkins and plugins during installation and updates.
   * Jenkins can operate without internet access but may require manual installation of plugins.
7. **Web Browser**:
   * Accessing the Jenkins dashboard requires a web browser.
   * Supported browsers include Google Chrome, Mozilla Firefox, Microsoft Edge, Safari, and others.
8. **Permissions**:
   * Ensure sufficient permissions are granted for installing and running Jenkins, including administrative privileges if necessary.
   * Network access permissions may be required for connecting Jenkins to external systems and services.
9. **Optional Components**:
   * Additional software or components may be required depending on the specific features and functionalities you intend to use with Jenkins.
   * Examples include version control systems (e.g., Git, Subversion), build tools (e.g., Maven, Gradle), and database servers (e.g., MySQL, PostgreSQL) for advanced configurations.
10. **Hardware and Scalability**:

* Hardware requirements may vary based on the size and complexity of Jenkins installations and the number of concurrent builds.
* For large-scale deployments or high availability setups, consider allocating more resources and utilizing distributed build architectures.

1. **Compatibility with Plugins and Integrations**:

* Check compatibility with plugins and integrations you plan to use with Jenkins, as they may have additional requirements or dependencies.
* **Jenkins Installation Process**

**Download Jenkins**:

* + Visit the official Jenkins website at <https://www.jenkins.io/> and navigate to the "Download" section.
  + Choose the appropriate installer package for your operating system (e.g., Windows, macOS, Linux).
  + Click on the download link to initiate the download process.
* **Install Java**:
  + Ensure that Java Runtime Environment (JRE) or Java Development Kit (JDK) is installed on your system.
  + If not already installed, download and install Java from the official Oracle website or your operating system's package manager.
* **Install Jenkins**:
  + Once the Jenkins installer package is downloaded, locate the downloaded file on your system.
  + Follow the installation instructions specific to your operating system:
    - **Windows**:
      * Double-click the Jenkins installer file (e.g., jenkins-\*.exe) to start the installation wizard.
      * Follow the prompts in the wizard to complete the installation process.
    - **macOS**:
      * Open the downloaded Jenkins installer package (e.g., jenkins-\*.pkg) by double-clicking it.
      * Follow the on-screen instructions to install Jenkins on your macOS system.
    - **Linux**:
      * Open a terminal window and navigate to the directory containing the downloaded Jenkins installer package.
      * Run the installation command appropriate for your Linux distribution. For example: